APR 1959

SOAP AND CHEMICAL SPECIALTIES

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1959 BLUE BOOK and Catalog

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Annual Buyers' Guide for

MANUFACTURERS, CONVERTERS AND REPACKERS OF SOAPS, DETERGENTS, CLEANERS, AEROSOLS, FLOOR WAXES, POLISHES, INSECTICIDES, DISINFECTANTS AND OTHER CHEMICAL SPECIALTIES.

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1959
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SOAP & CHEMICAL SPECIALTIES

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AN ANNUAL BUYERS GUIDE, DIRECTORY AND REFERENCE VOLUME FOR MANUFACTURERS, CONVERTERS, REPACKERS OF SOAPS, DETERGENTS, INSECTICIDES, DISINFECTANTS, POLISHES, CLEANERS, CHEMICAL SPECIALTIES, SERVICES AND EQUIPMENT.

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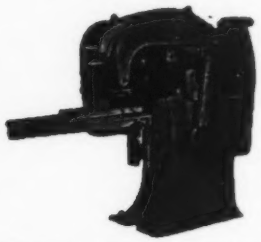
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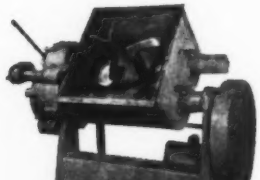
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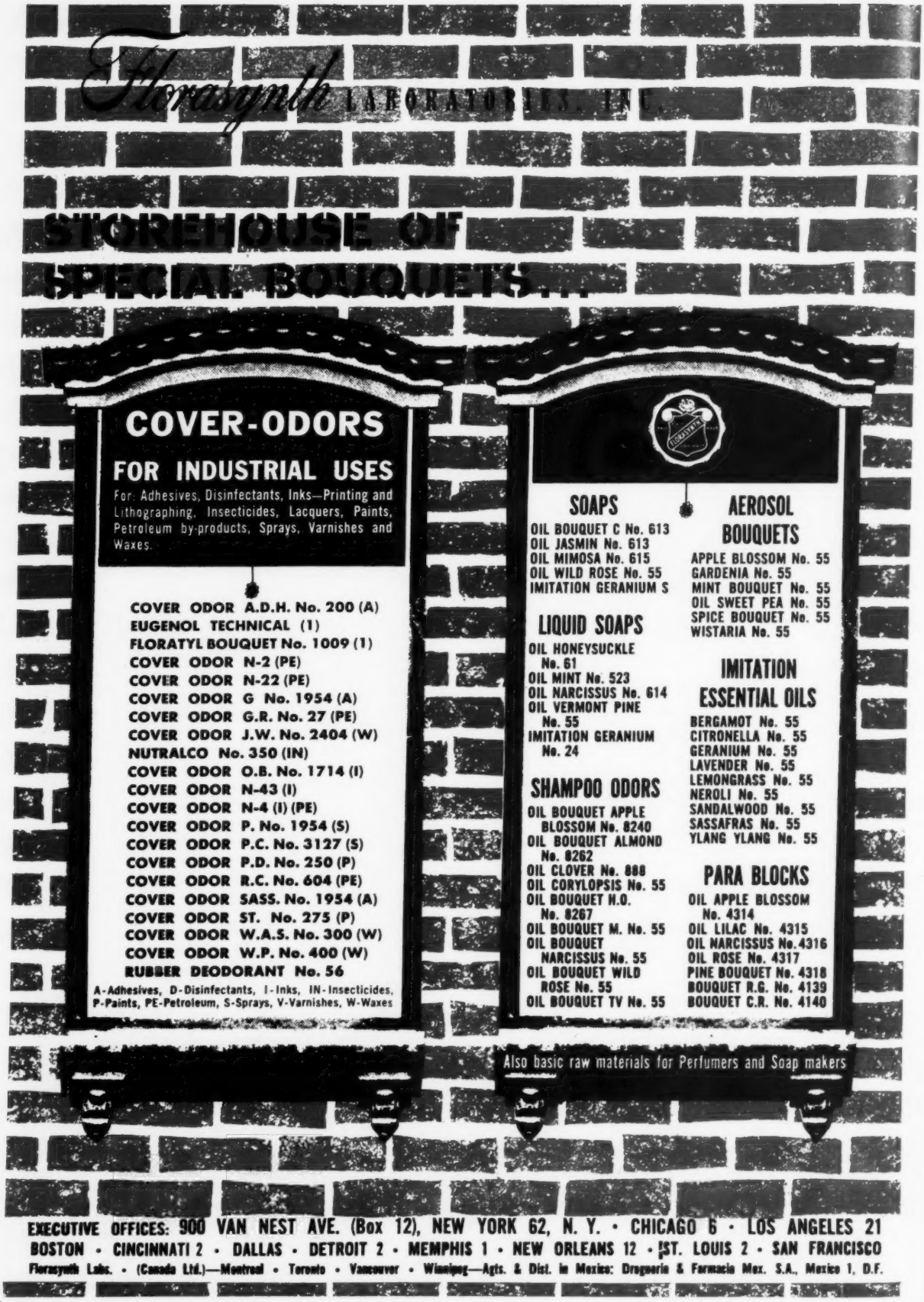
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Buyers' Guide Section

LISTED on following pages in alphabetical order are leading sources of supply for over 1,000 raw materials, equipment, machinery, containers, bulk and private brand finished products for manufacturers, converters, and repackers of soaps and detergents, cleaners, floor waxes, polishes, aerosols, insecticides, disinfectants and many other chemical specialties.

New listings have been added to reflect latest practices and manufacturing methods in the soap and chemical specialties fields. Listings, based on questionnaires sent each year to manufacturers by the publishers, have been revised and every attempt made to keep the *Buyers' Guide* accurate and up-to-date.

If you have a product or offer a service which should be included in this *Buyers' Guide*, write us for a questionnaire so that your firm may be included in next year's edition. However, bear in mind that the BLUE BOOK is not a general chemical directory, but is published specifically for manufacturers, converters and repackers of soaps, detergents and chemical specialties. BLUE BOOK listings are solely for firms selling *to the trade*.

If you are looking for a manufacturer or supplier of a product or service not listed, drop a line to the SOAP BLUE BOOK, and the editors will try to locate a source of supply. However, first check thoroughly the listings and advertisements.

When writing advertisers or other suppliers listed, name the SOAP BLUE BOOK as your source of information. This will identify you and aid in giving you prompt service.

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Minerals & Chems. Corp. of America, Menlo Park, N. J.
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Southeastern Clay Co., Aiken, S. C.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Universal Marble Products, Thornwood, N. Y.
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
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Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Mallinckrodt Chem. Co., St. Louis
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Joliet, Ill.
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Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
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25# Shipping Weight

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Pilot California Co., 215 W. 7th St., Los Angeles 14
Rohm & Haas Co., 222 W. Washington Sq., Phila.
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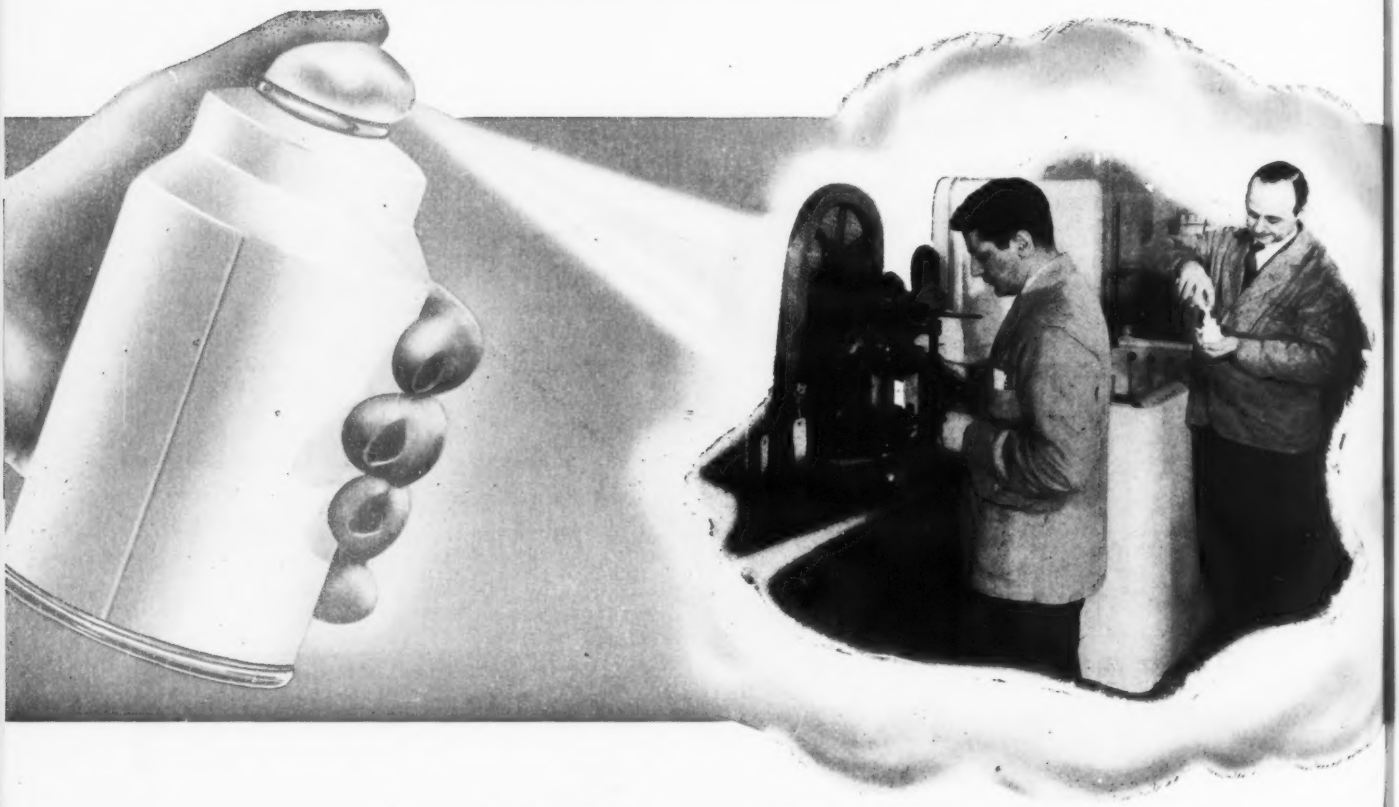
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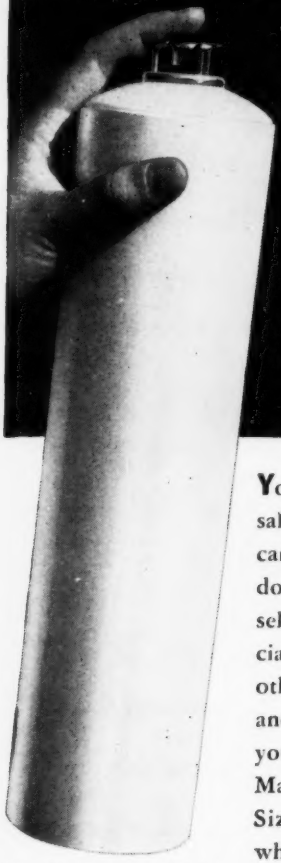
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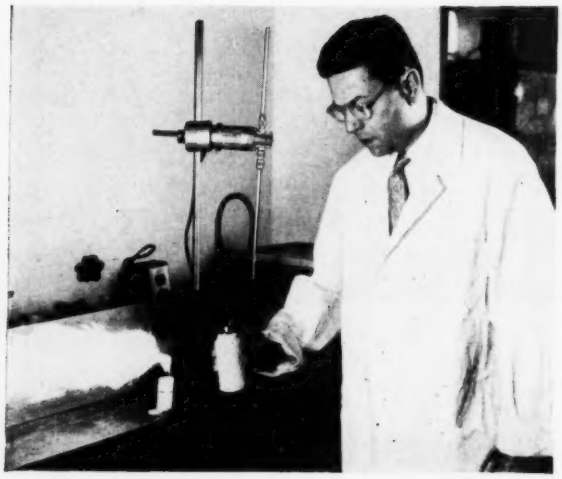
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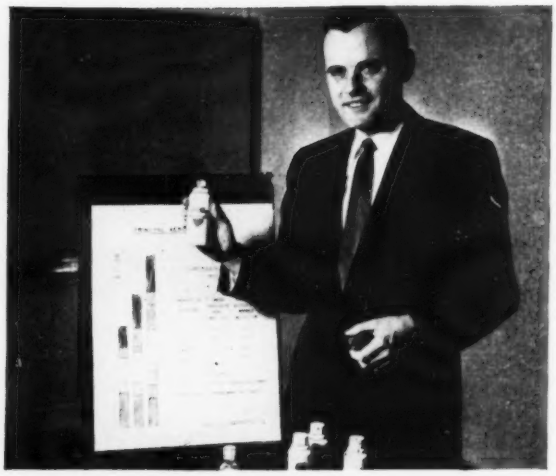
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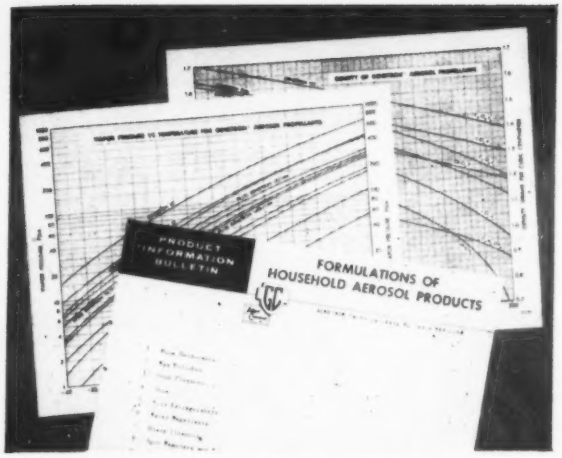


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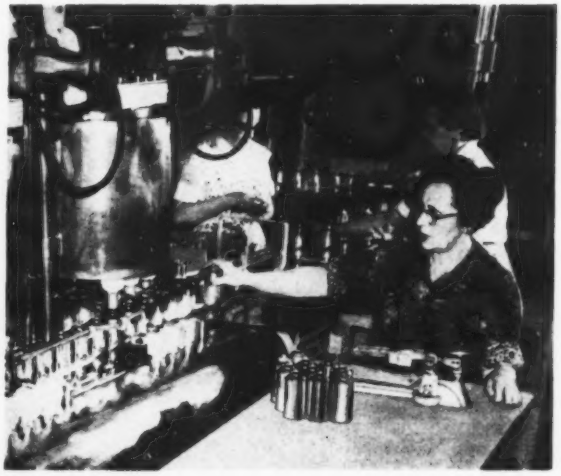
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Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Monsanto Chem. Co., St. Louis
Publicker Industries, Inc., 1429 Walnut St., Phila. 2
Shell Chem. Corp., 50 W. 50th St., N. Y. 20
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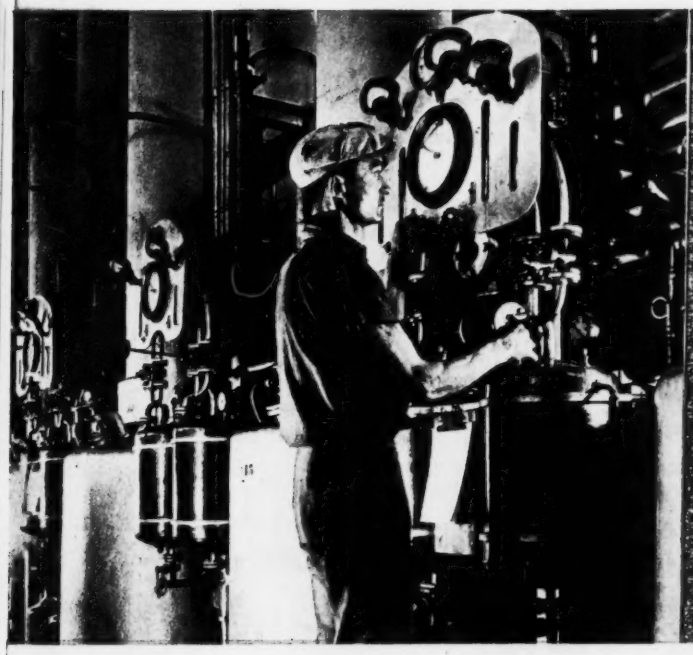
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E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Mallinckrodt Chemical Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center, Phila.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Joseph L. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y.

AMINDHYDROXY COMPOUNDS

Antara Chems. Div., 435 Hudson St., N. Y. 14
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dow chemical Co., Midland, Mich.
General Mills, Inc., Minneapolis 13
Jefferson Chemical Co., 1121 Walker Ave., Houston, Tex.
Mallinckrodt Chemical Wks., St. Louis 7
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Pennsalt Chems. Corp., 3 Penn Center, Phila.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17

AMMONIA (Anhydrous and Aqueous)

Armour & Co., 1355 W. 31st St., Chicago
Atlantic Refining Co., 260 S. Broad St., Phila.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chemical Wks., St. Louis
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Nitrogen Div., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chemicals Corp., 3 Penn Center, Phila. 2
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sinclair Petrochems., 600 5th Ave., N. Y. 20
Sun Oil Co., 1608 Walnut St., Phila.
Texas Co., 135 E. 42nd St., N. Y. 17
Jos. Turner & Co., Ridgefield, N. J.
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.

AMMONIA, HOUSEHOLD (see Household Ammonia)

AMMONIUM BICARBONATE

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
J. T. Baker Chemical Co., Phillipsburg, N. J.
Solvay Process Div., 61 Broadway, N. Y.

AMMONIUM CARBONATE

American Agricultural Chem. Co., 50 Church St., N. Y.
American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
J. T. Baker Chem. Co., Phillipsburg, N. J.
Harshaw Chem. Co., 1945 E. 97th St., Cleveland
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.

AMMONIUM CHLORIDE

J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Solvay Process Div., 61 Broadway, N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y.

AMMONIUM THIOGLYCOLATE

Evans Chemetics, Inc., 250 E. 43rd St., N. Y. 17
Morton Chem. Co., 110 N. Wacker Dr., Chicago 6
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Summit Chem. Prods. Corp., Belleville 3, N. J.

AMYL SALICYLATE (see Aromatic Chemicals)

ANISE OIL (see Essential Oils)

ANT POISONS

California Spray-Chemical Corp., Richmond, Calif.
Chase Products Co., 1816 St. Charles Rd., Maywood, Ill.
Fuld Bros., 702 S. Wolfe St., Baltimore
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chemical Div., 40 Rector St., N. Y.
Hysan Products Co., 936 W. 38th Place, Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
O. E. Linck Co., 51 James St., Montclair, N. J.
S. B. Penick & Co., 100 Church St., N. Y. 8
Pfaltz & Bauer, Inc., Empire State Bldg., N. Y.
Private Brands., Inc., 300 S. 3rd St., Kansas City, Kans.
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Sennewald Drug Co., Inc., 2721 Chouteau Ave., St. Louis
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12

ANTIOXIDANTS (For Soaps, Oils, Fats, etc.)

Antara Chemicals, 435 Hudson St., N. Y.
Archer-Daniels-Midland Co., Chem. Prods. Div., Minneapolis 2
Catalin Corp., of America, 1 Park Ave., N. Y.
Chemo Puro Mfg. Corp., 150 Doremus Ave., Newark 5, N. J.
Dow Chem. Co., Midland, Mich.
Eastman Chem. Prods., Kingsport, Tenn.
Enjay Co., 15 W. 51st St., N. Y. 19
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Fleetwood Prods. Co., 509 5th Ave., N. Y. 17
Geigy Industrial Chemicals, Ardsley, N. Y.
B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 20
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Hercules Powder Co., Wilmington
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
National Aniline Division, 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6
Shell Chem. Corp., 50 W. 50th St., N. Y. 20
Sinclair Petrochemicals, Inc., 600 5th Ave., N. Y. 20
Sindar Corp., 321 W. 44th St., N. Y. C.
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
Van Dyk & Co., Main & Williams Sts., Belleville, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y. 17

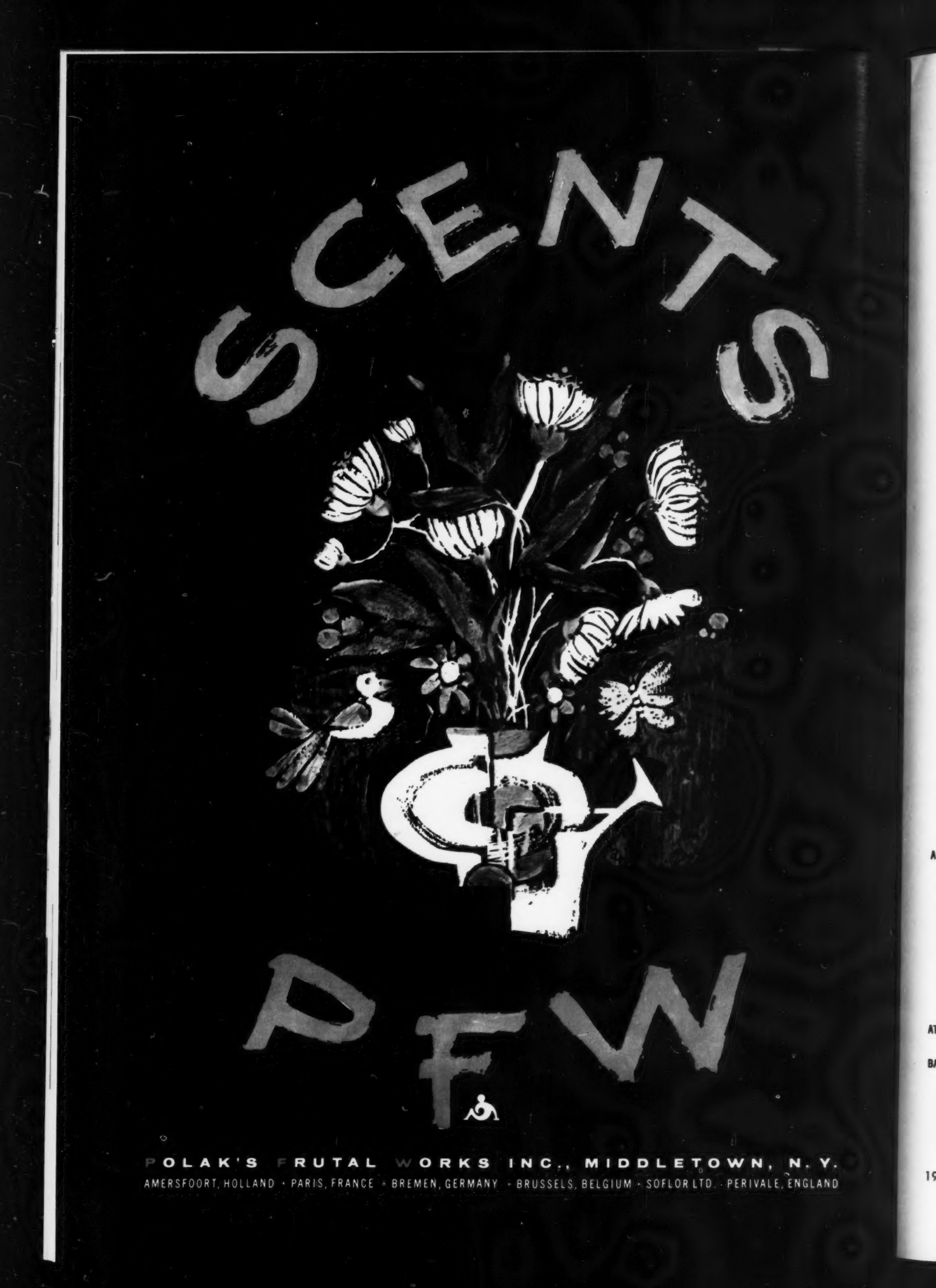
ANTISEPTIC SOAP (see Soaps, Antiseptic)

APPLICATORS (for Floor Wax)

American Standard Mfg. Co., 2509 S. Green St., Chicago
American Textile Prods. Co., 5606 Euclid Ave., Cleveland
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Fuld Bros., 702 S. Wolfe St., Baltimore
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Laitner Brush Co., 2000 Brooklyn Ave., Detroit
Layflat Products, Inc., 961 Grimmett Dr., Shreveport, La.
Moran Brush Mfg. Co., 30 Manila Ave., Hamden, Conn.
Palmer Fixture Co., 201 Albert St., Waukesha, Wisc.
D. B. Smith & Co., 414 Main St., Utica 2, N. Y.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.

AROMATIC CHEMICALS (for Perfuming)

Alpine Aromatics, Inc., 398 Main St., Metuchen, N. J.
American Aromatics, Inc., 24 E. 21st St., N. Y. 10



POLAK'S FRUTAL WORKS INC., MIDDLETOWN, N.Y.

AMERSFOORT, HOLLAND · PARIS, FRANCE · BREMEN, GERMANY · BRUSSELS, BELGIUM · SOFLOR LTD. · PERIVALE, ENGLAND

AROMATIC CHEMICALS (Contd.)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
W. J. Bush & Co., 137 Boston Post Rd., Cos Cob, Conn.
Charabot, Inc., 114 E. 25th St., N. Y.
Antoine Chiris Co., 220 E. 23nd St., N. Y. C.
Pierre Coutin Associates, 118 E. 28th St., N. Y.
Gerard J. Danco Int. Corp., 5 E. 19th St., N. Y. 3
Delaire, Inc., 240 W. 30th St., N. Y.
Descollonges, Inc., 160 5th Ave., N. Y. 10
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Dragoco, Inc., 250 W. Broadway, N. Y. 13
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Eastman Chem. Prods., Kingsport, Tenn.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Fisher Chemical Co., 220 E. 42nd St., N. Y.
Flam-Haft Laboratories, 8 E. 12th St., N. Y. 3
Fleetwood Prod. Co., 509 5th Ave., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fries & Fries, Inc., 110 E. 70th St., Cincinnati
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
Gunning & Gunning, 601 W. 26th St., N. Y.
Heine & Co., 601 W. 26th St., N. Y. 1
Hoffman-LaRoche, Inc., Nutley, N. J.
D. W. Hutchinson & Co., 700 South Columbus Ave., Mt. Vernon, N. Y.
Kay-Fries Chems., Inc., 180 Madison Ave., N. Y. 16
Lautier Fils Inc., 321 Fifth Ave., N. Y.
George Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Neumann-Buslee & Wolfe, 5800 Northwest Highway, Chicago
N. Y. Aromatics Corp., Highbridge, N. J.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 100 Church St., N. Y.
Perfumery Associates, Inc., 160 E. 56st St., N. Y.
Perry Bros., Inc., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Wks., Inc., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Polarome Mfg. Co., 73 Sullivan St., N. Y. 12
Reynaud, Ltd., 355 W. 52nd St., N. Y. 19
Rhodia, Inc., 60 E. 56th St., N. Y. 22
Roubechez, Inc., 8 E. 12th St., N. Y. 3
Roure-Dupont, 366 Madison Ave., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Seeley & Co., Nyack, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
A. M. Todd Co., Kalamazoo, Mich.
Tombarel Products Corp., 725 Broadway, N. Y. 3
Trubek Laboratories, E. Rutherford, N. J.
Ungerer & Co., 161 Avenue of Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y. 19
Van Dyk & Co., Belleville 9, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Aromatics, 26 Verona Ave., Newark, N. J.

ARSENICAL DIPS

Baird & McGuire, Inc., Holbrook, Mass.
Californa Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Chipman Chemical Co., Bound Brook, N. J.
General Chemicals Div., 40 Rector St., N. Y.
James Good Co., 2104 Susquehanna Ave., Phila.
McLaughlin Gormley King Co., Minneapolis
Thompson-Hayward Chemical Co., 2015 Southwest Blvd., Kansas City Mo.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis

ATOMIZERS (see Sprayers and Atomizers, Bottle)

BACTERIOSTATS

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chem. Div., 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago
Catalin Corp. of America, 1 Park Ave., N. Y.
Chemo Puro Mfg. Corp., 150 Doremus Ave., Newark, N. J.
Dow Chem. Co., Midland, Mich.

For use in **WAXES and EMULSIONS**

RINSES and SHAMPOOS

DISINFECTANTS

DEODORANTS

AEROSOLS

FUNGICIDES and BACTERIOSTATS

PARA-CHLOR-META-CRESOL (and Sodium salt)

DEHYDROACETIC ACID (and Sodium salt)

SALICYLANILIDE (and Sodium salt)

POLYCHLORPHENYL DODECANOATE

PARAHYDROXYBENZOATES (Methyl and Propyl)

CALCIUM, SODIUM and ZINC PROPIONATES

These high-purity chemicals are employed also as preservatives for water-colors, finger-paints, cosmetics, polishes, adhesives, inks and textile finishing compounds.

Ask for technical data on our bacteriostats, quaternaries and dermatological chemicals.

CHEMO PURO
MANUFACTURING CORPORATION
150 Doremus Avenue, Newark 5, N. J.

BACTERIOSTATS (Contd.)

E. I. du Pont de Nemours & Co., Wilmington, Del.
Fleetwood Prods. Co., 509 5th Ave., N. Y.
Geigy Industrial Chemicals, Ardsley, N. Y.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City, N. J.
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
Pennsalt Chems. Corp., 3 Penn Center, Phila.
Sindar Corp., 321 W. 44th St., N. Y. C.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Sterwin Chems., Inc., 1450 Broadway, N. Y. 18
R. T. Vanderbilt Co., 230 Park Ave., N. Y. 17

BAG LINERS (see Liners)

BAGS (Cloth)

Bemis Bro. Bag Co., 601 S. 41st St., St. Louis
Chase Bag Co., 309 W. Jackson Blvd., Chicago
Fulton Bag & Cotton Mills, Atlanta, Ga.
Hammond Bag & Paper Co., Wellsburgh, W. Va.
Mente & Co., Montegut & N. Villere Sts., New Orleans
Virginia-Carolina Chem. Corp., Richmond, Va.

BAGS (Multiwall)

Arkell & Smiths, Canajoharie, N. Y.
Bagpak Div., 220 E. 42nd St., N. Y.
Bemis Bro. Bag Co., 601 S. 4th St., St. Louis
Chase Bag Co., 509 W. Jackson Blvd., Chicago
Continental Can Co., 100 E. 42nd St., N. Y. 17
Fulton Bag & Cotton Mills, Atlanta
Hammond Bag & Paper Co., Wellsburgh, W. Va.
Hudson Pulp & Paper Co., 505 Park Ave., N. Y.
Kraft Bag Corp., 630—5th Ave., N. Y. 20
Owens-Illinois Glass Co., Toledo 1, O.
St. Regis Paper Co., 230 Park Ave., N. Y.
Union Bag-Camp Paper Corp., 233 Broadway, N. Y.

BAGS, Paper

American Bag & Paper Corp., Water & South Sts., Phila.
Chase Bag Co., 309 W. Jackson Blvd., Chicago
Continental Can Co., 100 E. 42nd St., N. Y. 17
Equitable Paper Bag Co., 45-50 Van Dam St., Long Island City, N. Y.
Gaylor Container Corp., 111 N. 4th St., St. Louis
Robert Gair Div., 155 E. 44th St., N. Y.
Milprint, Inc., Milwaukee 1, Wisc.
Oneida Paper Prods. Co., Clifton, N. J.
Premier Bag Co., Lyndhurst, N. J.
Union Bag-Camp Paper Corp., 233 Broadway, N. Y.
Western Waxed Paper Div., San Leandro, Calif.

BAGS (Transparent Film)

American Bag & Paper Corp., Water & South Sts., Phila.
Arkell Safety Bag Co., 10 E. 40th St., N. Y. 16
Arvey Corp., 3462 N. Kimball Ave., Chicago
Bemis Bros. Bag Co., St. Louis 2
Canton Containers, Inc., Canton, O.
Chase Bag Co., 309 W. Jackson Blvd., Chicago
Continental Can Co., 100 E. 42nd St., N. Y.
Equitable Paper Bag Co., 45-50 Van Dam, L. I. C., N. Y.
H & R Industries, Nazareth, Pa.
Howard Plastics, Council Bluffs, Iowa
Milprint, Inc., Milwaukee, Wisc.
Nashua Corp., Nashua, N. H.
Oneida Paper Prods., Inc., 10 Clifton Blvd., Clifton, N. J.
Standard Packaging Corp., 551 5th Ave., N. Y.

BALSAMS (see Essential Oils)

BARREL LINERS, (see Liners)

BARREL PUMPS (see Pumps, Dispensing)

BARRELS (Fibre)

Bennett Industries, Inc., 122 Washington St., Peotone, Ill.
Carpenter Container Co., 147—41st St., Brooklyn
Continental Can Co., 100 E. 42nd St., N. Y. 17
Federal Fibre Corp., 3704 10th St., L. I. C. 1, N. Y.
Fibre Drum Co., 20 N. Wacker Dr., Chicago 6
Master Package Corp., Owen, Wisc.
Rheem Mfg. Co., 1701 Edgar Rd., W., Linden, N. J.
Seymour & Peck Co., Blue Island, Ill.

BARRELS (Metal)

Bennett Industries, 122 Washington St., Peotone, Ill.
Columbia Can Co., 59-27 54th St., Maspeth 78, N. Y.
Eastern Can Co., Keap St., & Kent Ave., Bklyn.
Inland Steel Container Co., 30 W. Monroe, Chicago
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh
National Steel Con. Corp., 67000 S. LeClaire, Chicago
Pressed Steel Tank Co., Milwaukee, Wis.
Republic Steel Package Co., 7930 Jones Rd., Cleveland
Rheem Mfg. Co., 1701 Edgar Rd., W., Linden, N. J.
St. Louis Steel Package Co., St. Louis
U. S. Steel Prods. Co., 30 Rockefeller Plaze, N. Y.
Vulcan Containers Inc., Bellwood, Ill.
Vulcan Steel Container Co., 3315 N. 35th Ave., Birmingham, Ala.
Wheeling Corrugating Co., Wheeling, W. Va.

BARRELS (Wooden)

Atlas Plywood Corp., Boston 16, Mass.
Edwin Bell Cooperage Co., S. 17th St., Pittsburgh
Duff California Co., 100 Bush St., San Francisco
John Eppler Co., 1204 S. Sharp St., Baltimore
Gibbs Bros. Cooperage Co., Hot Springs, Ark.
Grief Bros. Cooperage Corp., Delaware, O.
International Cooperage Co., Niagara Falls, N. Y.
Monmouth Container Corp., Matawan, N. J.
Virginia Barrel Co., 178 Holland Ave., Staten Island, N. Y.

BARREL TILTERS

Economy Eng. Co., 2651 W. Van Buren St., Chicago
Formula Floor Products, 99 Frelinghuysen Ave., Newark, N. J.
Morse Mfg. Co., 753 W. Manlius St., E. Syracuse, N. Y.

BARRIER CREAMS (see Hand Creams, Protective)

BASE OILS (see Insecticide Base Oils)

BATH SALTS

A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Davies-Young Soap Co., Dayton 1, Ohio
Eagle Soap Corp., Huntington, Ind.
Flam-Haft Laboratories, 8 E. 12th St., N. Y. 3
Hewitt Soap Co., Dayton, O.
Higley Chem. Co., Dubuque, Iowa
Hysan Prods. Co., 936 W. 38th Place, Chicago
Lightfoot Co., 380 Madison Ave., N. Y. C.
Trio Chem. Wks., 341 Scholes St., Brooklyn

BENTONITE

American Colloid Co., 5100 Suffield Ct., Skokie, Ill.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Chas B. Chrystal Co., 53 Park Pl., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Minerals & Chems. Corp. of America, Menlo Park, N. J.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Whittaker, Clark & Daniels, 100 Church St., N. Y.

BENZALDEHYDE

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dragoco, Inc., 250 W. Broadway, N. Y. C.
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fitzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
R. W. Greeff Co., 10 Rockefeller Plaza, N. Y. 20
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17

Geo. Lueders & Co., 427 Washington Ave., N. Y. 13
Lautier Fils, 321 Fifth Ave., N. Y. 16
Magnus Mabee & Reynard, 16 Desbrosses St., N. Y.
Neumann-Buslee & Wolfe, 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 21st St., N. Y. 1
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Pennick & Co., 100 Church St., N. Y. 8
Polak's Frutal Wks., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwartz, Inc., 667 Washington St., N. Y. 14
Rhodia, Inc., 60 E. 56th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Tombarel Products Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Avenue of the Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y. 19
Van Dyk & Co., Belleville, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Aromatics, 26 Verona Ave., Newark 4, N. J.

BENZENE HEXACHLORIDE (see also Lindane)

Baird & McGuire, Inc., Holbrook, Mass.
Calif. Spray-Chemical Corp., Richmond, Calif.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chemical Div., 40 Rector St., N. Y.
Hooker Chemical Corp., Niagara Falls, N. Y.
Michigan Chemical Corp., St. Louis, Mich.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center, Phila. 2
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
Private Brands Inc., 300 S. 3rd St., Kansas City, Kan.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Tennessee Prods. & Chem. Corp., American Nat. Bank Bldg., Nashville
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.
Wyandotte Chems. Corp., Wyandotte, Mich.

BENZOIC ACID

Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Hooker Chem. Corp., Niagara Falls, N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Robeco Chems., Inc., 23 E. 26th St., N. Y. 10
Tennessee Prods. & Chem. Corp., Nashville, Tenn.

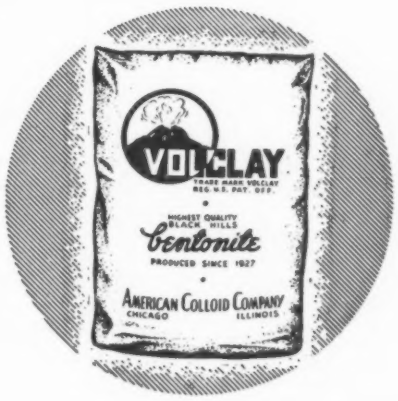
BENZOL (Benzene)

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29
Buffalo Solvents & Chemicals Corp., Box 73 Station B., Buffalo, N. Y.
Central Solvents & Chemicals Co., 2540 Flournoy St., Chicago 12
Chemo Puro Mfg. Co., 150 Doremus Ave., Newark, N. J.
Concord Chemical Co., 205 S. 2nd St., Camden, N. J.
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
Dixie Solvents & Chems. Co., Dixie Highway at Appleton, Louisville
Eastern States Pet. & Chem. Corp., Houston 12, Tex.
Enjay Co., 15 W. 51st St., N. Y. 19
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis
Jones & Laughlin Steel Corp., Pittsburgh 30
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Missouri Solvent & Chemical Co., 419 De Soto Ave., St. Louis
Neville Chemical Co., Pittsburgh
Ohio Solvents & Chemicals Co., 3570 W. 140th St., Cleveland
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Shell Chemical Corp., 50 W. 50th St., N. Y.
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans
Sun Oil Co., 1608 Walnut St., Philadlphia 3
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.
Texas Solvents & Chemicals Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Velsicol Chem. Corp., 330 E. Grand Ave., Chicago
Western Solvents Chemicals Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chemicals Corp., 1719 S. 82 St., Milwaukee, Wisc.
Wolverine Sols. & Chems. Co., 2940 Stafford Ave., S.W., Grand Rapids

BERGAMOT OIL (see Essential Oils)

BICARBONATE OF SODA (see Sodium Bicarbonate)

The Indians and Hudson Bay traders of the Northwest washed their blankets with a peculiar clay found in that region. They called it "soap clay" or "mineral jelly." There was truth in their discovery of its crude, practical efficiency! This colloidal clay is now known to be bentonite; we refine it into VOLCLAY for use in washing and cleaning compounds.



VOLCLAY is not just a "filler." It has actual detergent properties, which become very useful when combined with other ingredients.

VOLCLAY is produced in air-floated powders, some impalpably fine. Also as "KWK" —a pellet form that astonishingly disperses in water very quickly and yet yields the same colloidal gels as fine powder.

- **Emulsifies oil, greasy soil and bitumens**
- **Absorbs and suspends soil particles**
- **Absorbs certain proteins, also carbon**
- **Mild. The pH is 9 to 9.5**
- **Slightly zeolitic—absorbs calcium, gives up sodium ions**

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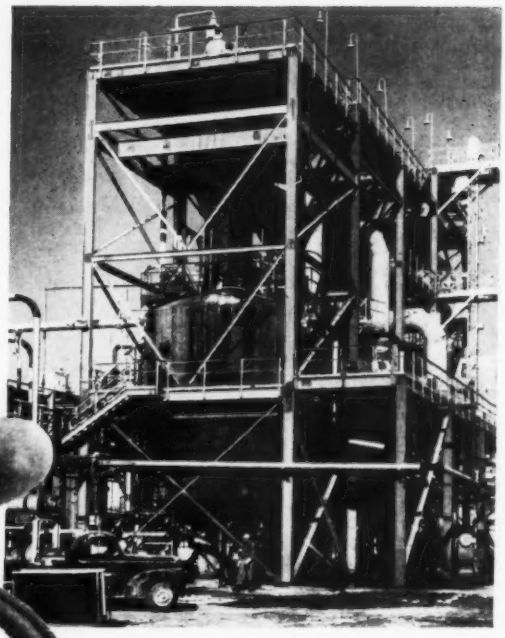
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American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fiber Chem. Corp., Matawan, N. J.
General Chem. Div., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Mutual Chem. Div., 98 Park Ave., N. Y.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
Solvay Process Div., 61 Broadway, N. Y. 6
Jos. Turner & Co., Ridgefield, N. J.

BLEACH, DRY (see Dry Bleach)

BLEACH, LIQUID (see Laundry Bleach)

BLEACHING AGENTS (see Chlorine, Peroxide, etc.)

BLEACHING EARTHS and CARBONS (see also Clays)

Chas. B. Crystal Co., 53 Park Pl., N. Y.
Dicalite Div., 612 S. Flower St., Los Angeles, Calif.
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
J. M. Huber Corp., 630 3rd Ave., New York
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
Whittaker, Clark & Daniels, 100 Church St., N. Y.
Witco Chemical Co., 122 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

BLEACHING EQUIPMENT (see Deodorizing and Bleaching Equipment)

BLEACHING POWDER (Chloride of Lime)

Dow Chemical Co., Midland, Mich.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Chemical Corp., Niagara Falls, N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.

BLENDERS (Blending Machinery)

Alsop Engineering Corp., Milldale, Conn.
Brower Mfg. Co., 411 N. 3rd St., Quincy, Ill.
Conn. & Co., 9 S. Marion St., Warren, Pa.
Craddock Equipment Co., 1507 A St., Wilmington, Del.
J. H. Day Co., Cincinnati 12
Eastern Industries, Inc., Hamden 14, Conn.
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Mixing Equipment Co., 167 Mt. Read Blvd., Rochester, N. Y.
Monjonnier Associates, 9151 Fullerton Ave., Franklin Park, Ill.
Munson Mill Machy. Co., 210 Seward Ave., Utica, N. Y.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Rapid Machy. Co., Marion, Ia.
Read Standard Division, York, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Young Machy. Co., Muncy, Pa.

BLOCK HOLDERS (see Deodorizing Block Holders)

BLOWERS, ELECTRIC (see Sprayers, Electric)

BLOWERS, FOR POWDERS (see Dusters, Insecticide Powder)

BLUEING (see Laundry Blue)

BOILER COMPOUNDS

American Colloid Co., 5100 Suffield Ct., Skokie, Ill.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Eagle Soap Corp., Huntington, Ind.
Geigy Industrial Chemicals, Ardsley, N. Y.
Haag Laboratories, 140th & Seeley, Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
R. M. Hollingshead Corp., Camden, N. J.
Jefferson Chemical Co., 1121 Walker Ave., Houston, Tex.
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Peck's Products Co., 610 E. Clarence Ave., St. Louis 15
Pennsalt Chemicals Corp., 3 Penn Center Plaza, Phila.
Permutit Co., 330 W. 42nd St., N. Y.
Rumford Co., Rumford 16, R. I.
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Trio Chem. Wks., 341 Scholes St., Brooklyn
Ultra Chem. Wks. P. O. Box 1536, Paterson, N. J.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Westvaco Mineral Prod. Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

BOIS de ROSE OIL (see Essential Oils)

BORAX (and Boric Acid)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
American Potash & Chem. Corp., 3060 W. 6th St., Los Angeles
Columbia-Southern Chem. Corp., Gateway, Pittsburgh
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
A. R. Maas Chemical Co., 4570 Ardine St., South Gate, Calif.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos Turner & Co., Ridgefield, N. J.
U. S. Borax & Chem. Corp., 50 Rockefeller Plaza, N. Y. 20
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Witco Chemical Co., 122 E. 42nd St., N. Y.

BORIC ACID (see above)

BOTTLE DISPENSERS (see Sprayers and Atomizers, Bottle)

BOTTLE FILLING MACHINERY (see Filling Machinery)

BOTTLE HANDLING EQUIPMENT (Unpacking, Cleaning, Drying, etc.)

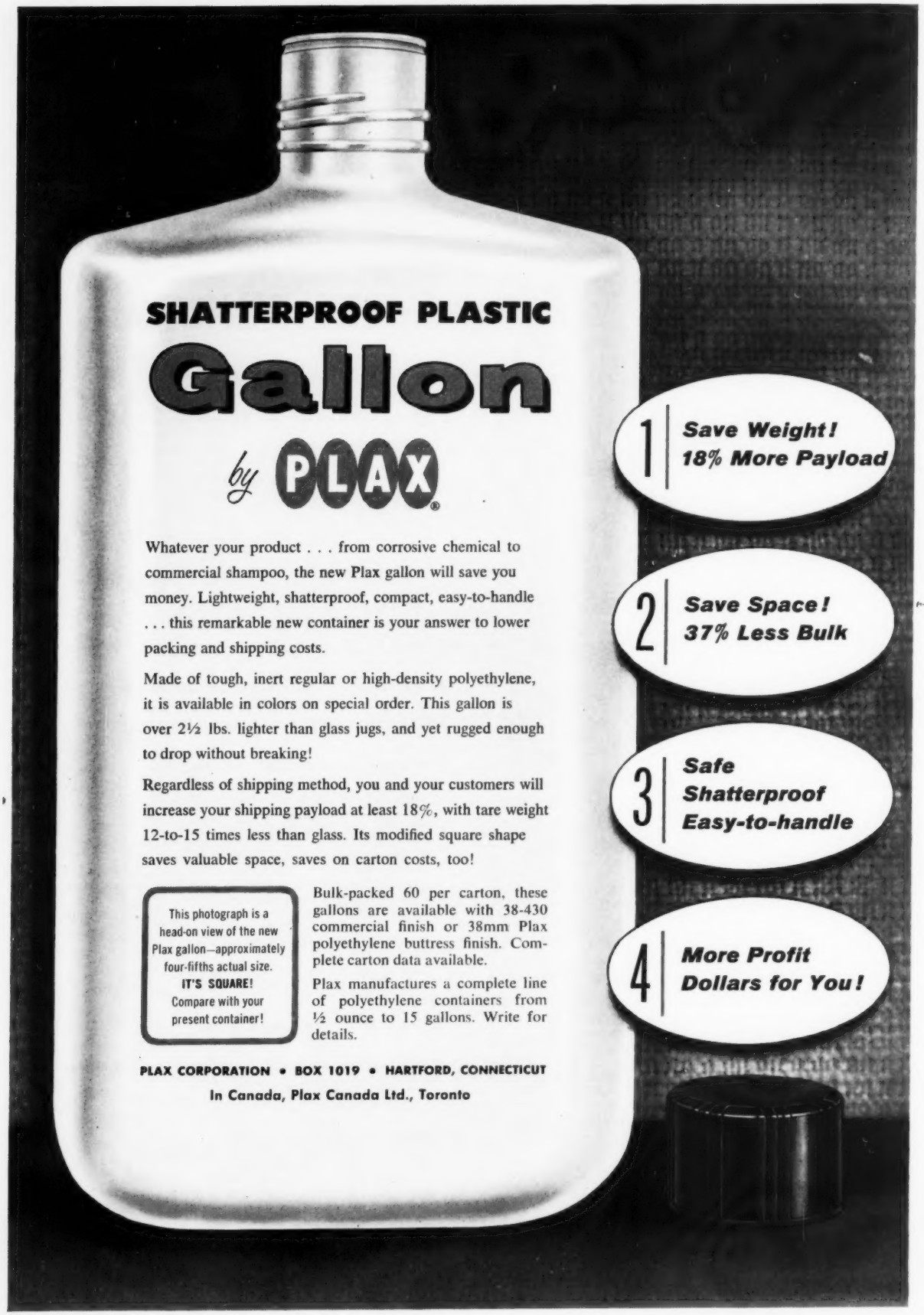
Chisholm-Ryder Co., of Pa., Hanover, Pa.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh
Island Equip. Corp., 1090 E. 31st St., Hialeah, Fla.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Mojonnier Associates Div., 9151 Fullerton Ave., Franklin Park, Ill.
M. R. M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35 St., Chicago (Used)
Packer Mchy. Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., Quincy 71, Mass.
Standard-Knapp Div., Portland, Conn.
Stokes & Smith Div., 4915 Summerdale Ave., Phila.
U. S. Bottlers Mchy. Co., 4019 N. Rockwell S., Chicago

BOTTLE SPRAYERS (see Sprayers, Bottle)

BOTTLE CLEANING MACHINERY (see Cleaning Machinery, Bottle)

BOTTLES AND JARS

Armstrong Cork Co., Lancaster, Pa.
Anchor Hocking Glass Corp., Lancaster, Ohio
Ball Brothers Co., Muncie, Ind.
Brockway Glass Co., Brockway, Pa.
Carr-Lowrey Glass Co., 2201 Kloman St., Baltimore 30
Continental Can Co., 100 E. 42nd St., N. Y. 17
Foster-Forbes Glass Co., Marion, Ind.
Knox Glass Co., Knox, Penna.
Maryland Glass Co., Baltimore Md.
Metro Glass Co., Jersey City, N. J.
Owens Illinois Glass Co., Toledo, O.
Wheaton Glass Co., Milville, N. J.


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Gallon
by PLAX®
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Regardless of shipping method, you and your customers will increase your shipping payload at least 18%, with tare weight 12-to-15 times less than glass. Its modified square shape saves valuable space, saves on carton costs, too!
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4 More Profit Dollars for You!

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Ball Brothers Co., Muncie, Ind.
Bradley-Sun Division, 181 Long Ave., Hillside, N. J.
Continental Can Co., 100 E. 42nd St., N. Y.
Gibbs Automatic Moulding Corp., Henderson, Ky.
Imco Container Corp., 75th & Cleveland, Kansas City, Mo.
Lawrence Plastic Container Co., 4617 Regent St., Phila., Pa.
Northwestern Bottle Co., 3144 N. Broadway, St. Louis
Plax Corp., Bloomfield, Conn.
Royal Mfg. Co., Prescott, Arizona
Wheaton Glass Co., Milville, N. J.

BOX LINERS (see Liners)

BOXES, (Corrugated and Fibre)

American Can Co., 100 E. 42nd St., N. Y. 17
Andre Paper Box Co., 1355 Market, St., San Francisco
Atlas-Boxmakers, Inc., 5025 W. 65th St., Chicago
Birmingham Paper Co., 2110 S. 5th Ave., Birmingham, Ala.
Calumet Carton Co., Homewood, Ill.
Cambridge Paper Box Co., Cambridge, Mass.
Continental Can Co., 100 E. 42nd St., N. Y. 17
Essex Paper Box Mfg. Co., 281 Astor St., Newark, N. J.
Fibreboard Paper Prods. Corp., 475 Brannan St., San Francisco
Gaylord Container Corp., 111 N. 4th St., St. Louis 2
Inland Container Corp., 700 W. Morris St., Indianapolis 6
National Folding Box Co., 405 Lexington Ave., N. Y.
Owens-Illinois Glass Co., Toledo, O.
Pacific Paper Box Co., 3615 Broadway Pl., Los Angeles
Union Bag-Camp Corp., 233 Broadway, N. Y.
Stone Container Corp., 4200 W. 42nd Pl., Chgo.

BOXES (Folding)

Ace Carton Co., 5800 W. 51st St., Chicago
Acme Paper Box Co., 800 Tennessee St., San Francisco
American Can Co., 100 E. 42nd St., N. Y. 17
Brooks & Porter, Inc., 304 Hudson St., New York
Berles Carton Co., 85 5th Ave., Paterson, N. J.
Bruce Carton Co., 546 Weakley Ave., Memphis, N. J.
Continental Can Co., 100 E. 42nd St., N. Y. 17
Fibreboard Paper Prods. Corp., 475 Brannan St., San Francisco
Gaylord Container Corp., 111 N. 4th St., St. Louis
Gordon Cartons, Inc., 1629 Warner St., Baltimore
Ohio Boxboard Co., Rittman, O.
Old Dominion Box Co., Lynchburg, Va.
Stone Container Corp., 4200 W. 42nd Pl., Chicago

BOXES (Set-up)

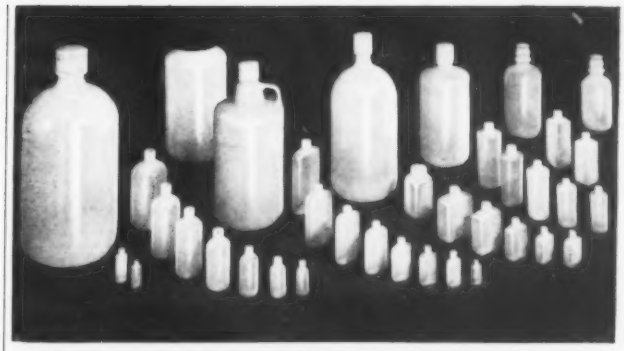
Acme Paper Box Co., 800 Tennessee St., San Francisco
American Can Co., 100 E. 42nd St., N. Y. 17
Container Corp. of America, 38 Dearborn St., Chicago
F. N. Burt Co., 500 Seneca St., Buffalo, N. Y.
Continental Can Co., 100 E. 42nd St., N. Y. 17
Dennison Mfg. Co., Framingham, Mass.
Los Angeles Paper Box & Board Mills, 2615 E. 12th St., Los Angeles
Shoup-Owens, Inc., 1100 Adams St., Hoboken, N. J.
Simplex Paper Box Corp., Lancaster, Pa.
Stone Container Corp., 4200 W. 42nd Pl., Chicago
Wallace Paper Box Corp., 52-07 Flushing Ave., Maspeth, N. Y. C.

BOXES (Fancy Wooden)

Bogert & Hooper, Inc., 101 W. 31st St., N. Y.
Eureka Mfg. Co., Taunton, Mass.
Nussbaum Novelty Co., Berne, Ind.
Pilliod Cabinet Co., Swanton, O.
Specification Packaging Engineering Corp., Burbank, Calif.

BROKERS (Chemicals)

American-British Chemical Supplies, 180 Madison Ave., N. Y. 16
John H. Calo Co., 19 Rector St., N. Y. 6
John A. Chew, Inc., 60 E. 42nd St., N. Y.
Simon Cytroh Trading Co., 50 Broad St., N. Y.
Dickerson Co., Drexel Bldg., Phila.
Globe Chem. Co., Murray Rd., Cincinnati
Griffin Chem. Co., 1000 16th St., San Francisco
Otto A. C. Hagen Co., Public Ledger Bldg., Phila.
Chas L. Huisking & Co., 417 Fifth Ave., N. Y.
C. Lievense, 11 Broadway, N. Y. 4
P. J. Lo Bue Co., 277 Park Ave., N. Y.





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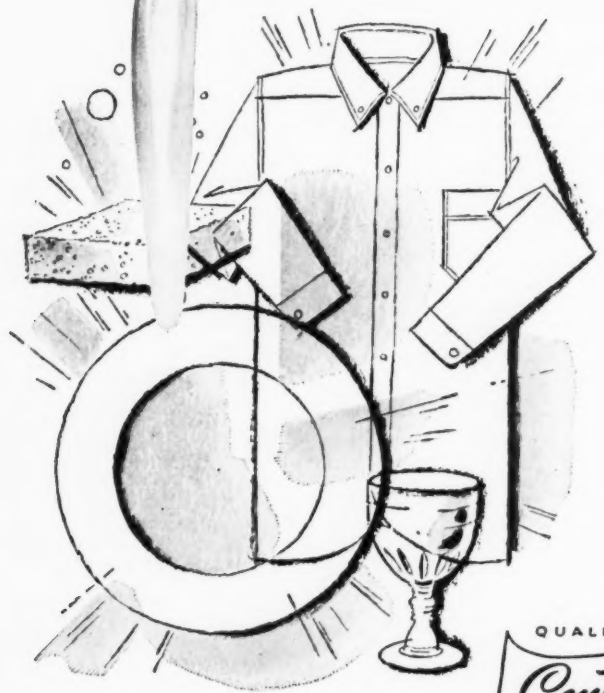


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BEST FOR *Detergents,*

ammonia and

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No drip nozzle of polyethylene for free flow and exact dripless cutoff.

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Millmaster Chem. Corp., 295 Madison Ave., N. Y.
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Riches-Nelson, Inc., 342 Madison Ave., N. Y.
G. S. Robins & Co., 126 Chouteau Ave., St. Louis 2
Robeco Chems. Inc., 23 E. 26th St., N. Y.
Schmitz-Schoenewald-Turner Co., 20 Vesey St., N. Y. 7
Siegel Chemical Co., 1 Hanson Pl., Bklyn.
George Uhe Inc., 76 9th Ave., N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

BROKERS (Oils and Fats)

Irving R. Boody Co., 120 Wall St., N. Y.
John H. Calo Co., 19 Rector St., N. Y. 6
Simon Cytron Trading Co., 50 Broad St., N. Y.
Davidson Commission Co., 327 S. La Salle St., Chicago
John W. Hall, 327 S. La Salle St., Chicago
Otto A. C. Hagan Co., Public Ledger Bldg., Phila.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y.
Hentz & Co., 60 Beaver St., N. Y.
Chas. Hollingshead Co., Produce Exchange, N. Y.
E. G. James Co., 316 S. La Salle St., Chicago
Marwood Co., 221 N. LaSalle, Chicago
Miller & Co., 2401 Chestnut St., Philadelphia
Rayner & Stonington, Inc., 79 Wall St., N. Y.
Revere Oil & Chemical Co., 23 E. 26th St., N. Y. 10
Robeco Chems., Inc., 23 E. 26th St., N. Y.
Sterne & Son Co., Board of Trade Bldg., Chicago
Weaver & Hugi, Inc., Produce Exchange Bldg., N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wilson Brokerage, Inc., Produce Exchange, N. Y.

BULK SOAPS (see Chip Soap, Laundry Soap)

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Cities Service Oil Co., Bartlesville, Okla.
Phillips Petroleum Co., Bartlesville, Okla.

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Harry T. Campbell Sons., Towson 4, Baltimore
Delore Div., St. Louis 11
Charles B. Chrystal Co., 53 Park Pl., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Whittaker, Clark & Daniels, Inc., 100 Church St., N. Y.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17
Wyandotte Chemicals Corp., Wyandotte, Mich.

CALCIUM CHLORIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Columbia-Southern Chem. Corp., Pittsburgh
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Solvay Process Div., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wyandotte Chemicals Corp., Wyandotte, Mich.

CALCIUM HYPOCHLORITE

Columbia-Southern Chem. Corp., Pittsburgh
General Chem. Div., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Chemical Corp., Niagara Falls, N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Jos. Turner & Co., Ridgefield, N. J.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Virginia-Carolina Chem. Corp., Richmond, Va.

CALCIUM STEARATE (see Stearates)

CAMPHOR OIL (see Essential Oils)

CANDELILLA WAX (see Waxes)

CAN SPOUTS AND NOZZLES

American Can Co., 100 Park Ave., N. Y. 17
Am. Flange & Mfg. Co., 30 Rockefeller Plaza, N. Y.
Continental Can Co., 100 E. 42nd St., N. Y. 17
Eastern Can Co., Keap St., & Kent Ave., Bklyn.
George D. Ellis & Sons, 4008 North American St., Phila. 40
Rieke Metal Products Corp., Auburn, Indiana
Seal Spout Corp., 230 Sheffield Ave., Mountainside, N. J.
Standard Containers, Inc., Montclair, N. J.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

CANS (Fibre or Paper)

American Can Co., 100 Park Ave., N. Y.
Cin-Made Corp., 800 E. Ross Ave., Cincinnati
Continental Can Co., 100 E. 42nd St., N. Y.
Cross Paper Products Corp., 4377 Bronx Blvd., N. Y. 66
Federal Fibre Corp., 3704 10th St., Long Island City, N. Y. 1
Fibreboard Paper Prods. Corp., 475 Brannan St., San Francisco 19
Harcord Mfg. Co., 125 Monitor St., Jersey City, N. J.
National Paper Can Co., Cudahy, Wis.
R. C. Can Co., 9430 Page Ave., St. Louis
Sealright Co., Fulton, N. Y.
Stone Container Corp., 4200 W. 42nd Pl., Chgo.
Sutherland Paper Co., Kalamazoo, Mich.

CANS (Sifter Top)

American Can Co., 100 Park Ave., N. Y. 17
Burdick & Son, 72 Haminlton St., Albany, N. Y.
Cin-Made Corp., 880 E. Ross Ave., Cincinnati
J. L. Clark Mfg. Co., Rockford, Ill.
Continental Can Co., Inc., 100 E. 42nd St., N. Y.
Cross Paper Products Corp., 4377 Bronx Blvd., N. Y. 66
Eastern Can Co., Keap St. & Kent Ave., Bklyn.
Fibreboard Paper Prods. Corp., 475 Brannan St., San Francisco 19
Harcoard Mfg. Co., 125 Monitor St., Jersey City, N. J.
R. C. Can Co., 9430 Page Ave., St. Louis
Scovill Mfg. Co., Waterbury, Conn.
Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis
Stone Container Corp., 4200 W. 42nd Pl., Chgo.

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American Can Co., 100 Park Ave., N. Y.
Central Can Co., 2415 W. 9th St., Chicago
J. L. Clark Mfg. Co., Rockford, Ill.
Continental Can Co., Inc., 100 E. 42nd St., N. Y.
Crown Cork & Seal Co., 9300 Ashton Rd., Philadelphia
Eastern Can Co., Keap St. & Kent Ave., Brooklyn 11
George D. Ellis & Son, 4008 North American St., Phila. 40
Fein's Tin Can Co., Bush Terminal, Brooklyn
Geuder, Paeschke & Frey Co., 324 N. 15th St., Milwaukee, Wisc.
Heekin Can Co., 429 New St., Cincinnati 2
Inland Steel Container Co., 30 W. Monroe St., Chicago
National Can Corp., 3217 W. 47th Pl., Chicago 32
Olive Can Co., 4700 N. Oketo Ave., Chicago
Scovill Mfg. Co., Waterbury, Conn.
Stern Can Co., 71 Locust St., Boston 25
Vulcan Containers Ltd., Box 284, Toronto, Can.
Vulcan Containers Inc., Bellwood, Ill.
Vulcan Steel Container Co., 3315 N. 35th Ave., Birmingham, Ala.

CAP LINERS

Aluminum Prods. Corp., Fulton, N. Y.
Armstrong Cork Co., Lancaster, Pa.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Crown Cork & Seal Co., Baltimore
Walter Frank Organization, 4160 Warren Ave., Hillside, Ill.
General Felt Prods., 68 35th St., Bklyn.
Irvington Varnish & Insulator Co., Irvington, N. J.
Reynolds Metals Co., Richmond, Va.

CAPPING MACHINERY

Anchor Hocking Glass Corp., Lancaster, O.
Builders Sheet Metal Wks., 108 Wooster St., N. Y.
Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo

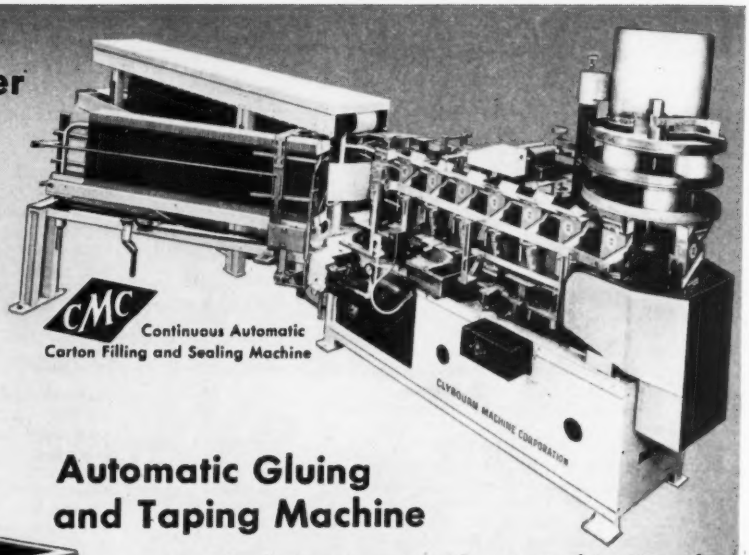
Continuous Automatic Carton Filler and Sealer

Packages granular products automatically at high speed.

Special models package powders, long cut or bagged products.

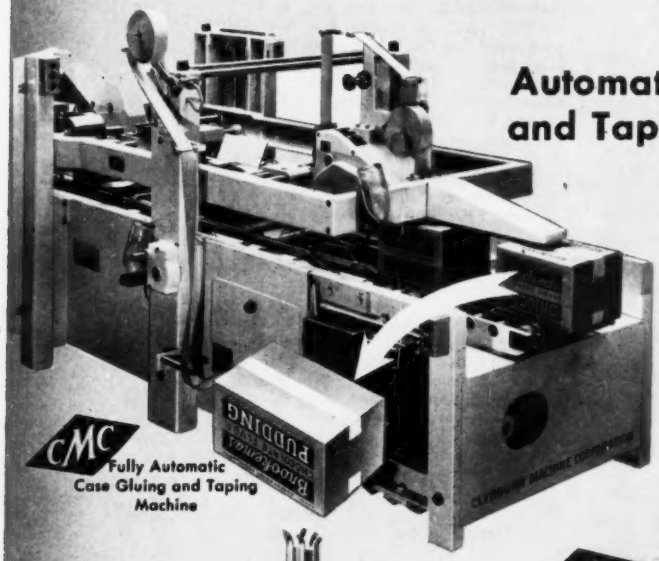
Measure by volume, net weight or auger feed.

Five models to meet widely varying requirements. Tell us about your needs or send for literature.



CMC Continuous Automatic Carton Filling and Sealing Machine

Automatic Gluing and Taping Machine

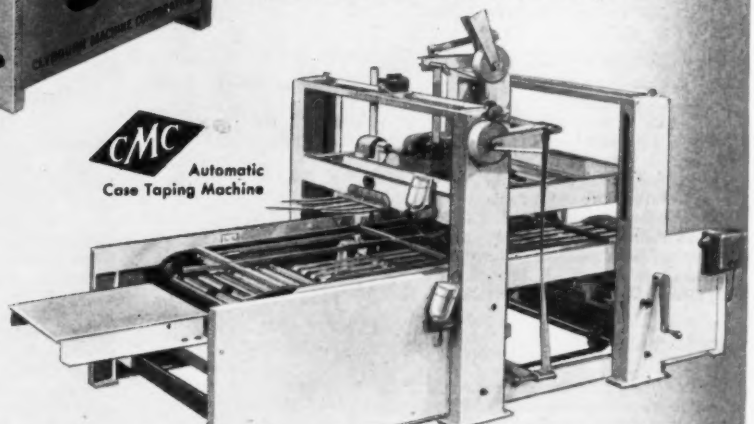


CMC Fully Automatic Case Gluing and Taping Machine

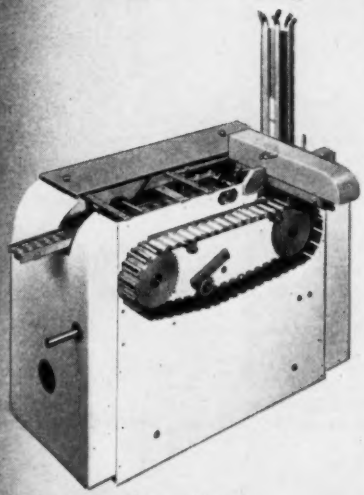
Seals in one pass with any combination of Gluing and Taping.

a. Glues *and* Tapes top and bottom.
b. Glues *or* Tapes top and bottom.
c. Glues bottom and Tapes top.

Glue application is adjustable. Any part or entire flap may be Glued. Bottom flaps may be completely Glued and top flaps spot Glued. Quick crank adjustment for height and width. Takes cartons from 10 to 22½" long.



CMC Automatic Case Taping Machine



TUC-PAC Intermittent Loading and Cartoning Machine

For packaging bagged or solid products. Attendants put contents for one carton into each conveyor pocket. The machine automatically forms and loads the cartons and tucks the flaps delivering a completed carton.

Speed adjustment from zero to 60 cartons per minute. Furnished for straight, reverse, or glue end cartons.

Automatic Case Taping Machine

Tapes top and/or bottom in one pass. Can be used as an independent taping machine or attached to case sealer now in your plant for fully automatic taping operation.

Case size range – 10 to 22½" long, 5½ to 17¾" wide; 5½ to 17½" high and larger. Capacity 4 to 18 cartons per minute.

CMC CLYBOURN MACHINE CORPORATION
6479 N. Avondale Ave., Chicago 31, Ill.

CAPPING MACHINERY (Contd.)

Crown Cork & Seal Co., 9300 Ashton Rd., Phila. 36
Ertel Engineering Corp., West Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
R. G. Haskins Co., 2661 W. Harrison St., Chicago
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Mojonnier Associates Div., 9151 Fullerton Ave., Franklin Park, Ill.
M. R. M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 34th St., Chicago
Pneumatic Scale Corp., Quincy 71, Mass.
Resina Automatic Mchy. Co., 572 Smith St., Brooklyn
Triangle Package Machy. Co., 6643 W. Diversey Blvd., Chicago 51
Tite-Cap Machine Co., 57 Rose St., N. Y. 7
U. S. Bottlers Mchy. Co., 4015 N. Rockwell S., Chicago

CAPS (Plastic) (see Closures, Plastic)

CAPS (Metal) (see Closures, Metal)

CARBOLIC ACID (see Phenol)

CARBON for bleaching oils, glycerine, etc., (see Decolorizing Carbons)

CARBON TETRACHLORIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
J. T. Baker Chemical Co., Phillipsburg, N. J.
Buffalo Solvents & Chemicals Corp., Box 73 Station B, Buffalo 7, N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dixie Solvents & Chems. Co., Dixie Highway, Louisville, Ky.
Dow Chemical Co., Midland, Mich.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Solvay Process Div., 61 Broadway, N. Y.
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans 18, La.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos Turner & Co., Ridgefield, N. J.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wisconsin Sols. & Chems. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solv. & Chems. Co., 2940 Stafford Ave., SW, Grand Rapids

CARBOXYMETHYCELLULOSE (CMC)

Antara Chemicals, 435 Hudson St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Wyandotte Chemicals Corp., Wyandotte, Mich.

CARNAUBA WAX (see Waxes)

CARTON LINING MACHINES (see Lining Machinery)

CARTON SEALING MACHINERY (see Packaging Machinery)

CARTONING MACHINERY

Bartelt Engineering Co., 1900 Harrison Ave., Rockford, Ill.
Battle Creek Packaging Machines, Inc., Battle Creek, Mich.
Bell Machine Co., 65 Jackson Dr., Oshkosh, Wisc.
Chisholm-Ryder Co., Hanover, Pa.
Clybourn Machine Corp., 6479 N. Avondale Ave., Chicago 31
J. L. Ferguson Co., Joliet, Ill.
R. A. Jones & Co., Cincinnati, Ohio
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
John R. Nalbach Eng. Co., 6139 Ogden Ave., Chicago
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Packaging Machinery Co., East Longmeadow, Mass.
Pneumatic Scale Corp., Quincy 71, Mass.

PUT MORE PROFIT into Your CARTON FORMING, FILLING and SEALING Operations with TRIANGLE Equipment

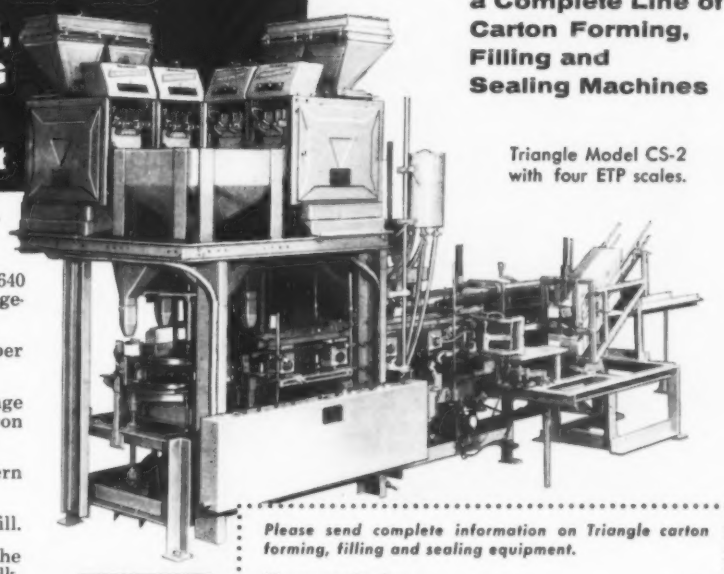
These are some of the advantages you can have with Triangle's Model CS-2:

- One machine to handle all your carton sizes up to 640 cubic inches, that is 8x5x16 inches. Simple fast change-over for different sizes.
- The CS-2 will form, fill and seal up to 60 cartons per minute.
- Our New Elec-Tri-Pak scales will hold your average give away to an absolute minimum — depending upon your product this can be as little as 2 grams.
- It has glue applicators for fast easy clean-up—pattern gluing won't contaminate your product.
- The CS-2 can be equipped with auger or volumetric fill.
- We have carton sealer installations throughout the world running such diverse products as instant milk, detergents, cereals, short cut macaroni, dog food, salt, seeds, fertilizers and many other items.

For complete information on carton forming, filling and sealing equipment

TRIANGLE Package Machinery Company
6643 West Diversey • Chicago 35, Illinois

TRIANGLE offers a Complete Line of Carton Forming, Filling and Sealing Machines



Triangle Model CS-2 with four ETP scales.

Fill in the coupon

Please send complete information on Triangle carton forming, filling and sealing equipment.

We are packaging _____

_____

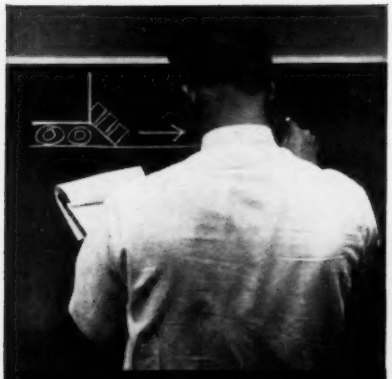
Name _____

Company _____

Address _____

City _____ Zone ____ State _____

HOW TO PLAN NEW STRATEGY



John B. makes $3-a-ton handling cost disappear. John's company has used solid caustic soda for years even through many increases in annual requirements. John sat down with his Hooker representative and doodled with some figures. He found that his company spends $4.00 on *in-plant* handling costs for every ton of caustic soda. The Hooker man showed John B. that he could cut this to $1.00 a ton by switching from solid to 50% liquid Hooker caustic.



Sam van R. finds a way to step ahead of competition. Sam's company repackages caustic soda for the specialty trade. Through the years it has specialized in regular flake. When Sam's Hooker man stopped in and discussed the fact that Hooker offers *four* flake sizes, Sam got an idea. He figures that if his company offers all four sizes to the market—a size that meets the *exact* needs of a particular job—it will get a big jump on competition.—How many sizes do you offer?



Fred P. makes a switch that saves him five figures. Fred's Hooker man pulled out a booklet and turned to a nomograph on page 13. Fred checked a few figures in his own books and drew a line on the nomograph. This simple procedure showed Fred that by switching from 50% caustic to Hooker's 73%, he would save enough on freight alone to pay for any extra equipment he might need and still show a solid black line on his company's ledger for years to come.

...with Hooker caustic soda for profit • Your Hooker man has a hatfull of ideas which you can use to amaze friends and influential people.

The only props you need are some Hooker caustic soda and your imagination. With them you can turn dollars into more dollars.

Did you know there are 12 ways to buy Hooker caustic soda? Liquid 50% • Rayon Grade Liquid 50% • Liquid 73% • Rayon Grade Liquid 73% • Solid • Regular flake • Crystal flake • Fine flake • Powdered • Phosphated • Low chloride • Special alkali.

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In Canada: Hooker Chemicals Limited, North Vancouver, B. C.

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F. B. Redington Co., 3000 St. Charles Rd., Bellwood, Ill.
Standard-Knapp Div., Portland, Conn.
Stokes & Smith Div., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 6633 W. Diversey Blvd., Chicago 51
Weigh Right Automatic Scale Co., 404 Grant Ave., Joilet, Ill.

CARTONS (see Boxes)

CASE LOADING MACHINERY

Chisholm-Ryder Co., Hanover, Penna.
J. L. Ferguson Co., Joliet, Ill.
R. A. Jones & Co., Cincinnati
Karl Kiefer Mach. Co., 919 Martin St., Cincinnati
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
Standard-Knapp Div. of Emhart Mfg. Co., Portland, Conn.
Stokes & Smith Div., 4915 Summerdale Ave., Phila.

CASE SEALING MACHINERY (see Sealing Machinery)

CASEIN

Alco Oil & Chem. Corp., Trenton Ave. & Williams St., Phila.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Borden Co., 350 Madison Ave., N. Y.
Wm. Diehl & Co., 330 W. 42nd St., N. Y. 18
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Swift & Co., Chicago 9
Tamms Industries, Inc., 228 N. La Salle St., Chicago

CASES (Corrugated) (see Boxes)

CASTILE SOAP, BAR

Brunswick Soap Co., 250 Plymouth St., Brooklyn
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Hewitt Soap Co., Dayon, O.
Kranich Soap Co., 54 Richards St., Brooklyn
Lockwood-Brackett Co., Waltham Station, Boston
Mem Co., 67 Irving Pl., N. Y. 3
Original Bradford Soap Wks., West Warwick, R. I.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati 1
Schmidt Soap Products, 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago

CASTILE SOAP, LIQUID

Analab Laboratories, 285 Franklin St., Boston 10
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Baums Castorine Co., 200 Matthew St., Rome, N. Y.
Chemical Service of Baltimore, Howard & West Sts., Baltimore 30
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Davies-Young Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Fuld Bros., 702 Wolfe St., Baltimore
James Good Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Hewitt Soap Co., Dayton, O.
Higley Chem. Co., Dubuque, Iowa.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kranich Soap Co., 54 Richards St., Brooklyn
Midland Laboratories, 210 Jones St., Dubuque, Iowa
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Peck's Prods. Co., 610 S. Clarence Ave., St. Louis
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Trio Chem. Wks., 341 Scholes St., Brooklyn
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Uncle Sam Chem. Co., 575 131st St., N. Y.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Wolf Soap Co., 254 Sheffield Ave., Bklyn.

CASTOR OIL

Archer-Daniels-Midland Co., Minneapolis
Baker Castor Oil Co., 40 Ave. A, Bayonne, N. J.
George Degen & Co., 111 Broadway, N. Y.
Otto A. C. Hagen Co., 929 Public Leadger Bldg., Phila.
Pacific Vegetable Oil Corp., 1145 S. 10th St., Richmond, Calif
J. H. Redding, Inc., 177 Battery Place, N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Swift Co., Chicago
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.

CASTOR OIL, DEHYDRATED

Archer-Daniels-Midland Co., Minneapolis
Baker Castor Oil Co., 40 Ave. A, Bayonne, N. J.
Spencer Kellogg & Sons, Buffalo, N. Y.
Joseph Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.

CASTOR OIL FATTY ACIDS (see Fatty Acids)

CASTOR OIL, HYDROGENATED (see Hydrogenated Oils)

CATALYTIC AGENTS

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chemical Co., Phillipsburg, N. J.
Davison Chemical Corp., Baltimore, Md.
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Chemical Corp., Niagara Falls, N. Y.
Lucidol Div., Buffalo 5, N. Y.
Metal & Thermit Corp., Rahway, N. J.
Olin Mathieson Chem. Corp., Baltimore 3
Oronite Chem. Co., 200 Bush St., San Francisco, Calif.
Solvay Process Div., 61 Broadway, N. Y. 6
Stauffer Chem. Co., 380 Madison Ave., N. Y. 17

CATTLE DIPS AND SPRAYS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chemagro Corp., 437 5th Ave., N. Y. 16
Chemical Service of Baltimore, Howard & West St., Baltimore
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., 40 Rector St., N. Y.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley, Blue Island, Ill.
Higley Chem. Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis, Minn.
Peck's Prod. Co., 610 E. Clarence Ave., St. Louis
Rex Research Corp., Toledo
Shell Chemical Corp., 50 W. 50th St., N. Y. 19
Standard Oil Co., (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Uncle Sam Chem. Co., 575 W. 131st St., N. Y.
Union Carbide & Chems. Co., 30 E. 42nd St., N. Y. 17
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Velsicol Corp., 330 E. Grand Ave., Chicago
Robert C. White Co., Chestnut Hill, Phila.

CATTLE SPRAY BASE (see Insecticide Base Oils)

CAUSTIC POTASH (see Potash)

CAUSTIC SODA

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Columbia Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland



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SODA ASH	*Light and Dustless Dense in several screen sizes* *Shipped in Bulk Cars and Paper Bags*
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Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Solvay Process Div., 61 Broadway, N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N .J.
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16
Velsicol Chem. Corp., 330 E. Grand Ave., Chicago
Virginia-Carolina Chem. Corp., Richmond, Va.
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

CEDAR LEAF OIL (see Essential Oils)

CEDARWOOD OIL (see Essential Oils)

CERESIN WAX (see Waxes)

CETYL ALCOHOL (see Fatty Alcohols)

CHALK (see Calcium Carbonate)

CHELATING AGENTS

American Cyanamid Co., Dyes Department, Bound Brook, N. J.
Antara Chemicals, 435 Hudson St., N. Y. 14
Chemo Puro Mfg. Co., 150 Doremus Ave., Newark, N. J.
Dawes Laboratories, 4800 S. Richmond St., Chicago 32
Dow Chem. Co., Midland, Mich.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., Elizabeth 1, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Glyco Prods Div., 417 5th Ave., N. Y.
Hampshire Chem. Corp., Nashua, N. H.
M. Michel & Co., 90 Broad St., N. Y.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Joliet, Ill.
Pfanstehl Laboratories, 104 Lake View Ave., Waukegan, Ill.
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn.
Reading Testing Laboratories, 1145 N. Mill St., Reading, Pa.
Refined Prods. Corp., 624 Schuyler Ave., Lyndhurst, N. J.
Rumford Chem. Wks., Rumford, R. I.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Tanatex Chem. Corp., Belleville Turnpike, Kearny, N. J.
Victory Chem. Wks., 1550 N. Wacker Drive, Chicago
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.

CHILLING ROLLS

Houchin Machy. Co., Hawthorne, N. J.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Lukens Steel Co., Coatsville, Pa.
Meccaniche Moderne, Corso Sempione, 51 Busto Orsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Proctor & Schwartz, 7th St. & Tabor Rd., Philadelphia
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn 5
C. G. Sargent's Sons Corp; Graniteville, Mass.
Henry Simon Ltd., Cheadle Heath, Stockport, England
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

CHINAWOOD OIL (see Tung Oil)

CHIPPERS (see Soap Machinery)

CHIP SOAPS (including Flakes)

Armour & Co., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Britex Corp., 17 Lewis Wharf, Boston
Chicago Sanitary Products Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
DuBois Co., Cincinnati



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East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Hewitt Soap Co., Dayton, Ohio
R. M. Hollingshead Corp., Camden, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Lever Bros. Co., 390 Park Ave., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
New South Mfg. Co., 711 Bankhead Ave., N.W., Atlanta 18
National Soap Co., 357 South 25th St., Tacoma, Wash.
Original Bradford Soap Wks., West Warwick, R. I.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Distribuing Co., Cincinnati
Standard Soap Co. Div., 205 S. 2nd St., Camden 1, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Theobald Industries, P. O. Box 72, Harrison, N. J.
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.

CHLORDANE (Technical)

Velsicol Corp., 330 E. Grand Ave., Chicago

CHLORDANE FORMULATIONS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
A-M-R Chemical Co., 958 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Compounding Corp., 262 Huron St., Bklyn. 22
Chem. Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
Douglas Chem. Co., 620 E. 16th Ave., N. Kansas City, Mo.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore 31
General Chemical Division, 40 Rector St., N. Y.
Hub States Chems. & Equipment, 1255 N. Winsor St., Indianapolis
Hysan Products Co., 936 W. 38th Pl., Chicago
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Michigan Chemical Corp., St. Louis, Mich.
Midland Laboratories, 210 Jones St., Dubuque, Iowa
Miller Products Co., 1932 S. W. Water Ave., Portland, Ore.
Ottawa Chem. Co., 823 Hamilton St., Toledo, O.
S. B. Penick & Co., 100 Church St., New York
Pittsburgh Coke & Chem. Co., 2000 Grand Bldg., Pittsburgh
Puro Co., 2801 Locust St., St. Louis 3
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Prviate Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
J. W. Quinn Drug Co., Greenwood, Miss.
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Sprayway, Inc., 7640 Vincennes Ave., Chgo.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Trio Chemical Wks., 341 Scholes St., Bklyn 6
Uncle Sam Chem. Co., 575 W. 31st S., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Velsicol Chem. Corp., 330 E. Grand Ave., Chicago
Warsaw Chem. Co., Warsaw, Ind.
York Chem. Co., 23 Dean St., Bklyn. 1
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

CHLORIDE OF LIME (see Bleaching Powder)

CHLORINE

Arkansas Louisiana Chem. Co., Shreveport, La.
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Hooker Chemical Corp., Union St., Niagara Falls, N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Solvay Process Div., 61 Broadway, N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16
Velsicol Chem. Corp., 330 E. Grand Ave., Chicago
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

CHLORINE DIOXIDE

Hooker Chemical Corp., Niagara Falls, N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Solvay Process Div., 61 Broadway, N. Y. C.

CHLORINE DISINFECTANTS (see Disinfectants)

CHLOROFORM

Diamond Alkali Co., Cleveland 14
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Kolker Chem. Corp., 600 Doremus Ave., Newark, N. J.
Mallinckrodt Chem. Works, St. Louis
Merck & Co., Rahway, N. J.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Solvay Process Div., 61 Broadway, N. Y.

CHLOROPHYLL

American Chlorophyll, Lake Wales, Fla.
Florsaynth Laboratories, Inc., 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76 Ninth Ave., N. Y. 11
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Leeben Color & Chem. Co., 103 Lafayette St., N. Y. 13
Merck & Co., Rahway, N. J.
S. B. Penick & Co., 100 Chursch St., N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Schimmel & Co., 601 W. 26th St., N. Y.

CHLOROSULFONIC ACID (see Acids)

CITRAL (see Aromatic Chemicals)

CITRIC ACID

Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6
Robeco Chems. Inc., 25 E. 26th St., N. Y. 10

CITRONELLA (see Aromatic Chemicals)

CITRONELLA OIL (see Essential Oils)

CITRONELLOL (see Aromatic Chemicals)

CLAD EQUIPMENT, Stainless Steel, Nickel, Monel, etc.

J. H. Day Co., Cincinnati 12
Edge Moor Iron Wks., Edge Moor, Del.
Houchin Machinery Co., Hawthorne, N. J.
International Nickel Co., 67 Wall St., N. Y.
Littleford Bros., 453 E. Pearl St., Cincinnati
Patterson Kelley Co., East Stroudsburg, Pa.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Read-Standard Corp., York, Pa.
F. J. Stokes Machine Co., Philadelphia
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago
Young Machinery Co., Muncy, Pa.

CLAD STEEL (stainless steel plates, etc., for fabricating tanks, vats, kettles, drying towers, etc.)

Bethlehem Steel Co., Bethlehem, Pa.
Colorado Fuel & Iron Corp., 575 Madison Ave., N. Y. 22
Lukens Steel Corp., Coatsville, Pa.
Republic Steel Co., Cleveland
U. S. Steel Corp., Pittsburgh, Pa.

CLAYS

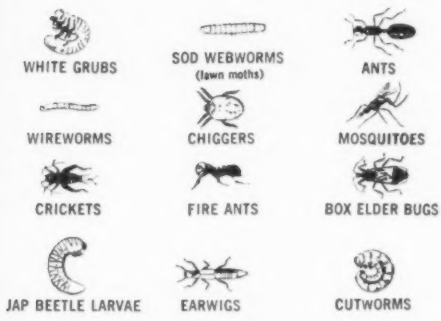
American Colloid Co., 5100 Suffield Ct., Skokie, Ill.
California Industrial Minerals Co., Friant, Calif.
Carolina Pyrophyllite Co., 10 E. 40th St., N. Y. 16
Charles B. Chrystal Co., 53 Park Pl., N. Y.

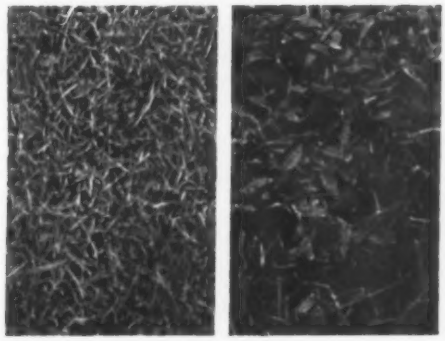
CHLORDANE facts

. . . that can help you sell more in 1959!

ONE EASY APPLICATION KILLS LAWN INSECTS and CONTROLS CRABGRASS

Chlordane is America's leading lawn and garden insecticide. A single application will kill lawn insects and control crabgrass. Or, if crabgrass is not a problem, Chlordane can be used at a lower dosage for insect control alone. Here are a few of the many lawn and garden insects that Chlordane controls:





Chlordane kills crabgrass before it starts! Shown are test plots at a state university, photographed August 23, 1958. The plot on the left was treated with Chlordane March 11, 1958. Chlordane prevented crabgrass growth. The untreated plot on the right is heavily infested with crabgrass.

CHLORDANE HAS BOTH ESTABLISHED PREFERENCE AND NEW POTENTIAL—Chlordane has a unique market position. It is the only known insecticide that kills crabgrass, and it is the only chemical that has both an established preference and a tremendous new potential. Chlordane has been in use more than twelve years. It is the active ingredient in many insecticide formulations that are sold under various trade names. You will find it listed in the lawn and garden insect control literature published by the U.S.D.A. and your state extension service. Its record of safety and residual effectiveness is without parallel. Now, Chlordane has become a key product in the booming crabgrass control market. These conditions will more firmly establish Chlordane as the "Sales Leader" in your garden chemicals line.

CHLORDANE GIVES YOU 100% SALES SUPPORT—So called "dealer support," for many products, means national ads, a counter card and one or two folders. Chlordane dealer support goes far beyond this. Your dealers are offered a complete packaged program. It includes a nine lesson "Insect Control Refresher Course" that enables them to conduct sales training programs. There is a monthly information service that helps them sell all types of garden chemicals. There are extensive and varied promotional materials. In addition, there is a strong national advertising program for Chlordane. Newspapers in 45 top lawn and garden markets, plus the top home and gardening magazines will be used to promote Chlordane in 1959. Make sure all your salesmen know about the Chlordane "100% Sales Support" program!

MAIL THE COUPON TODAY FOR DETAILS ON CHLORDANE PLANS AND PROMOTIONS FOR 1959!
Find out about the Chlordane CASH BONUS PLAN for distributor and formulator salesmen!

VELSICOL CHEMICAL CORPORATION
330 East Grand Avenue, Chicago 11, Ill. SBB-9

☐ Please send me complete information about Chlordane promotions for 1959.

Name_____
Firm_____
Address_____
City_____ Zone_____ State_____

CLAYS (Contd.)

Dicalite Div., 612 S. Flower St., Los Angeles, Calif.
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
Georgia Kaolin Co., 511 Westminister Ave., Elizabeth, N. J.
J. M. Huber Corp., 630 3rd Ave., N. Y. 17
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Peerless Clay & Mineral Co., Pueblo, Colo.
L. A. Salomon & Bro. 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
Southeastern Clay Co., Aiken, S. C.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Whittaker, Clark & Daniels, 100 Church St., N. Y.
Witco Chemical Co., 122 E. 42nd St., N. Y.
Wyodak Chem. Co., 4600 E. 71st St., Cleveland

CLEANERS, LIQUID (see also Floor Srub Soaps, also Cleaning Fluids)

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
American Alcolac Corp., 3440 Fairfield Rd., Baltimore 26
A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Betco Corp., 830 Elysian Ave., Toledo, O.
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Britex Corp., 17 Lewis Wharf, Boston
Buckingham Wax Co., 5103 Van Dam St., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago 32
Chemical Service of Baltimore, Howard & West Sts., Baltimore 30
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Continental Chemical Co., 195 21st Ave., Paterson, N. J.
Davies-Young Soap Co., Dayton, Ohio
Diversey Corp., 1820 W. Roscoe St., Chicago 13
Drackett Co., 5020 Spring Grove, Cincinnati 32
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eagle Soap Co., Huntington, Ind.
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chem. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, Inc., 1219 W. 74th St., Cleveland 2
Federal Varnish Div., 2841 S. Ashland Ave., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila.; Pa.
Frontier Chem. Prods., 119 E. Soper St., St. Louis
Fuld Bros., 702 So. Wolfe St., Baltimore
Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City
Geigy Industrial Chemicals, Ardsley, N. Y.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratries, Inc., 14000 S. Seely Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Klenzade Prods., Inc., Beloit, Wisc.
Klix Chem Co., 551 Railroad Ave., South San Francisco, Calif.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
M. & H. Laboratries, 2703 Archer Ave., Chicago
Magnus Chemical Co., 83 South Ave., Garwood, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Iowa
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
National Aniline Div., 40 Rector St., N. Y.
National Chemical Laboratories, 825 Lombard St., Phila.
National Laboratories, Inc., 4934 Lewis Ave., Toledo, O.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
New South Mfg. Co., 711 Bankhead Ave., N.W., Atlanta 18
Nopco Chemical Co., 60 Park Pl., Newark 1, N. J.
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Onyx Oil & Chem. Co., Warren & Morris St., Jersey City, N. J.
Ottawa Chem. Co., 823 Hamilton St., Toledo, O.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Pennsylvania Refining Co., Butler, Pa.
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Perrow Chemical Co., Hurt, Va.
Philadelphia Quartz Co., Public Ledger Bldg., Phila.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Procter & Gamble Dist. Co., Cincinnati 1
Purex Corp., 9300 Rayo Ave., South Gate, Calif.
Puritan Chem. Co., Atlanta, Ga.
Puro Co., 2801 Locust St., St. Louis, Mo.
Reily Chemical Co., Industrial Prods. Div., P. O. Box 59, New Orleans
S. F S. Soap Co., 815 E. 135 St., N. Y. 54
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Simoniz Co., 2100 Indiana Ave., Chicago 16
Stanalchem Inc., 350 Madison Ave., N .Y. 17
Standard Soap Co., 205 S. 2nd St., Camden 1, N. J.
John C. Stalfort & Sons, 319 W. Pratt St., Baltimore
John T. Stanley Co., 642 W. 30th St., N. Y.
Stepan Chem. Co., 427 W. Randolph St., Chicago
Surety Laboratories, 3946 Olive St., St. Louis 8
Swift & Co., Chicago 9
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Twi-Laq Chem. Co., 76 Grand Ave., Bklyn 5, N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., New York City
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
Vestal, Inc., 4963 Manchester St., St. Louis 10
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Windsor Wax Co., 611 Newark St., Hoboken, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.
Zeen Chemical Co., 2000 Elm St., Cleveland 13
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

CLEANING COMPOUNDS, DRY

ABC Compounding Co., 1642 Marietta Rd., Atlanta, Ga.
Antara Chems. Div., 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago
B. T. Babbitt, Inc., 625 Madison Ave., N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Bonewitz Chemicals, Inc., Burlington, La.
Brilco Laboratories, 1553 63rd St., Brooklyn, N. Y.
Britex Corp., 17 Lewis Wharf, Boston
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Click Chemical Corp., Columbia & Carleton Ave., Mt. Vernon, N. Y.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Columbia-Southern Chem. Corp., Pittsburgh
Continental Oil Co., 1270 Av. of Americas, N. Y. 20
Cowles Chemical Co., 7016 Euclid Ave., Cleveland, Ohio
Davies-Young Soap Co., Dayton, O.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Diversey Corp., 1820 W. Roscoe St., Chicago 13
Drackett Co., 5020 Spring Grove, Cincinnati 32
Eagle Soap Co., Huntington, Ind.
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emeryville Chem. Co., 405 Montgomery St., San Francisco
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chem. Co., 5906 N. Port Washington Rd., Milw.
Frontier Chem. Prods. Co., 119 E. Soper St., St. Louis
Geigy Industrial Chemicals, Ardsley, N. Y.
Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City
James Good, Inc., 2107 Susquehanna Ave., Phila.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
Help, Inc., 122 W. Kinzie St., Chicago
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 936 W. 38th Place, Chicago
J. Chemical Works Co., 602 W. 37th St., N. Y. 18
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Klenzade Prods., Inc., Beloit, Wisc.
Klix Chem. Co., 551 Railroad Ave., South San Francisco, Calif.
H. Kohnstamm & Co., 161 6th Ave., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
M. & H. Laboratories, 2703 Archer Ave., Chicago
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Iowa
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
New South Mfg. Co., 711 Bankhead NW, Atlanta, 18
North Coast Soap & Chem. Wks., Seattle, Wash.

Oronite Chem. Co., 200 Bush St., San Francisco
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Peck's Prod. Co., 610 E. Clarence Ave., St. Louis
Peerless Chem. Co., 1300-02 N. Fulton Ave., Baltimore
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Philadelphia Quartz Co., Public Ledger Bldg., Independence Sq., Phila. 6
Pilot California Co., 215 W. 7th St., Los Angeles 14
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Distributing Co., Cincinnati
Puritan Chem. Co., Atlanta, Ga.
Puro Co., 2801 Locust St., St. Louis, Mo.
Purex Corp., 9300 Rayo Ave., South Gate, Calif.
Rumford Chem. Wks., Rumford 16, R. I.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sole Chem. Corp., 27 E. Monroe St., Chicago
Solvay Process Div., 61 Broadway, N. Y.
S. & S. Soap Co., 815 E. 13th St., N. Y. 54
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Standard Soap Co., 205 S. 2nd St., Camden 1, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y. 17
Stevens-Wiley Mfg. Co., 1601 W. Glenwood Ave., Phila. 32
Sugar Beet Prods. Co., Saginaw, Mich.
Swift & Co., Chicago 9
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Warsaw Chem. Co., Warsaw, Ind.
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17
Wyandotte Chemicals Corp., Wyandotte, Mich.

CLEANING FLUIDS (Spotting Fluids)

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Amsco Solvents & Chems. Co., 4617 Reading Rd., Cincinnati
Anderson-Prichard Oil Corp., 1000 Liberty Bank Bldg., Okla. City, Okla.
Atlantic Refining Co., 260 South Broad St., Phila.
C. P. Baker & Co., 501 N. 11th St., Phila. 23
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Britex Corp., 17-18 Lewis Wharf, Boston 10
Buckingham Wax Co., 51-03 Van Dam St., L. I. C., N. Y.
Buffalo Solvents & Chem. Corp., P. O. #73, Sta. B, Buffalo, N. Y.
Central Solv. & Chem. Co., 2540 W. Flournoy St., Chicago
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Davies-Young Soap Co., Dayton, O.
Dixie Solvents & Chems. Co., Dixie Highway, Louisville
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Co., Huntington, Ind.
Eastern States Pet. & Chem. Corp., Houston 12, Tex.
Emkay Chemical Co., Elizabeth 1, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore 31
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Higley Chem. Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hoosier Sols. & Chem. Corp., 1650 Luett Ave., Indianapolis
James Huggins & Son, 239 Medford St., Malden, Mass.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Missouri Sols. & Chems. Co., 419 DeSoto Ave., St. Louis
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Puro Co., 2801 Locust St., St. Louis 3
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Pennsalt Chems. Corp., 3 Penn Center, Phila. 2
Pennsylvania Refining Co., Butler, Pa.
Products Packaging, Inc., 6400 Herman Ave., Cleveland 2
Sandoz, Inc., 61 Van Dam St., N. Y. 13
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Southern Sols. & Chems. Corp., 917 Jefferson Hgwy., New Orleans
Standard Oil Co., (Calif.), 225 Bush St., San Francisco
Standard Soap Co., 205 S. 2nd St., Camden 1, N. J.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Texas Sols. & Chems. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4501 South Ave., Toledo, O.
Western Sols. & Chems. Co., 6472 Solkiak Ave., Detroit

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By John W. McCutcheon

Over 2,000 products listed by trade or generic name, manufacturer, class or formula, form (powder, paste, liquid, etc.), type (anionic, cationic, nonionic), per cent concentrated, main uses, and principal applications. Reprinted from issues of Soap & Chemical Specialties.

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475 Fifth Ave., New York 17, N. Y.

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Trio Chem. Wks., 341 Scholes St., Bklyn.
Uutra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Wisconsin Sols. & Chems. Corp., 1719 S. 83rd St., Milwaukee
Witco Chem. Co., 122 E. 42nd St., N. Y.
Wolverine Solvents & Chems. Co., 1500 Century Ave. SW, Grand Rapids
Zeen Chemical Co., 2000 Elm St., Cleveland 13

CLEANING MACHINERY (for Bottles and Jars)

Alsop Engineering Corp., Milldale, Conn.
Arenco Mach. Co., 25 W. 43rd St., N. Y. 18
Chisholm-Ryder Co., Hanover, Penna.
Consolidated Package Machy. Corp., 1400 West Ave., Buffalo, N. Y.
Hope Machine Co., 9400 State Rd., Phila.
Karl Kiefer Mach. Co., 919 Martin St., Cincinnati
Mojonnier Assoc. Div., 9151 Fullerton Ave., Franklin Park, Ill.
M.R.M Co., 191 Berry St., Bklyn. 11
Packer Mach. Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., Quincy 71, Mass.
U. S. Bottlers Machy. Co., 4019 N. Rockwell St., Chicago

CLIPS (for collapsible Tubes) (see also Tubes, Collapsible)

Arthur Colton Co., 3426 E. Lafayette Ave., Detroit
Standard Spec. & Tube Co., New Brighton, Pa.

CLOSURE LINERS (see Cap Liners)

CLOSURES, PLASTIC

Anchor Hocking Glass Corp., Lancaster, Ohio
Armstrong Cork Co., Lancaster, Pa.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Buckeye Molding Co., Miamisburg, O.
Federal Tool Corp., 3600 W. Pratt Blvd., Chicago
Clayton Corp., 4205 Forest Park Blvd., St. Louis 8
Walter Frank Organization, 4160 Warren Ave., Hillside, N. J.
General Plastics, Inc., N. Tonawanda, N. Y.
Gibbs Automatic Molding Corp., Hendersonville, Ky.
Gibson Associates, 390 E. North Ave., Cranford, N. J.
Gilbert Plastics, Inc., Boright Ave., Kenilworth, N. J.
Hydrawlik Co., 131 E. 1st Ave., Roselle, N. J.
Mack Molding Co., Wayne, N. J.
Owens-Illinois Glass Co., Toledo, Ohio
Pennsylvania Glass Prods. Co., Pittsburgh
Plax Corp., Bloomfield, Conn.
Scott Plastics, 410 Windsor St., Hartford, Conn.
Standard Cap & Molding Co., 307 S. Eaton St., Baltimore
Wheaton Glass Co., Millville, N. J.
Wheeling Stamping Co., 2116 Water St., Wheeling, W. V.
A. H. Wirz, Inc., Chester, Pa.

CLOSURES, METAL

Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Can Co., 100 Park Avenue, N. Y. 17
Anchor Hocking Glass Corp., Lancaster, Ohio
Armstrong Cork Co., Lancaster, Pa.
Ball Brothers Co., Muncie, Ind.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Continental Can Co., 100 E. 42nd St., N. Y.
Crown Cork & Seal Co., Baltimore, Md.
Eastern Caps & Closure Co., 725 N. Haven St., Baltimore
Walter Frank Organization, 4160 Warren Ave., Hillside, N. J.
Ludwig Closures, 185 Oakland St., Brooklyn
National Seal Co., 14th Ave. & 37th St., Brooklyn
Owens-Illinois Glass Co., Toledo, Ohio
Penn Cap & Closures, 1155 Manhattan Ave., Brooklyn
Phoenix Metal Cap Co., 2444 W. 16th St., Chicago
Rieke Metal Prods. Co., Auburn, Ind.
Seal-Spout Corp., 230 Sheffield St., Mountainside, N. J.
Sterling Seal Co., 316 W. 16th St., Erie, Pa.
Trio Metal Cap Co., 317 N. San Francisco Ave., Chicago
West Penn Mfg. & Supply Corp., Brackenridge, Pa.

COAL TAR DISINFECTANTS (see Disinfectants, Coal Tar)

COAL TAR RAW MATERIALS (Cresols, Creosote Oil, Cresylic Acid, etc.)

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Baird & McGuire, Inc., Holbrook, Mass.
Concord Chem. Co., 250 S. 2nd St., Camden 1, N. J.
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh
Koppers Co., Pittsburgh 19
Monsanto Chemical Co., St. Louis
Penna. Industrial Chem. Corp., Clairton, Pa.
Plastic & Coal Chem. Div., 40 Rector St., N. Y. 6
Reilly Tar & Chemical Co., Merchant Bank Bldg., Indianapolis
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Tar Residuals, Inc., 420 Lexington Ave., N. Y. 17
U. S. Steel Corp., Pittsburgh, Pa.
James Varley & Sons, 1200 Switzer Ave., St. Louis

COCOA BUTTER

Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 20
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Woodward & Dickerson, Inc., Philadelphia 2

COCONUT OIL

Balfour, Guthrie & Co., 67 Wells St., N. Y.
Brazilian Industrial Oils, 75 West St., N. Y.
Capitol City Products Co., 525 W. 1st Ave., Columbus, O.
T. G. Cooper & Co., Cedar & Venango Sts., Phila. 34
Geo. Degen & Co., 111 Broadway, N. Y.
Eastern Industries, Inc., Ridgefield, N. J.
Foremost Food & Chem. Co., Oakland, Calif.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Pacific Veg. Oil Corp., 1145 S. 10th St., Richmond, Calif.
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Swift & Co., Hammond, Ind.
Jos. Turner & Co., Ridgefield, N. J.
Vegetable Oil Prods., 5568 E. 61st St., Los Angeles
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

COCONUT OIL FATTY ACIDS

Acme-Hardesty Co., 60 W. 42nd St., N. Y. C.
Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago 9
Capitol City Prods. Co., 525 W. 1st St., Columbus, O.
Concord Chemical Co., 205 S. 2nd St., Camden, N. J.
Darling & Co., 4201 S. Ashland Ave., Chicago 9
Emery Industries, Carew Tower, Cincinnati 2
Foremost Food & Chem. Co., Oakland, Calif.
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., 25 Main St., Belleville 9, N. J.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Vegetable Oil Prods., 5568 E. 61st St., Los Angeles
Wilson-Martin Division, Snyder & Swanson, Phila.
Woburn Chem. Co., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Great Neck, N. Y.

COCONUT OIL SOAPS (see Hard Water Soaps)

COCONUT OIL SHAMPOO BASE (see Shampoo Base and Potash Soaps)

COCONUT OIL POWDERED SOAPS (see Soaps, Powdered)

CODING MACHINES

Acro Tool & Die Works, 4554 Broadway, Chicago
Adolph Gottscho, Inc., 6 Evans Terminal, Hillside, N. J.
Kiwi Coders Corp., 4027 N. Kedzie Ave., Chicago
Weber Addressing Machine Co., Mt. Prospect, Ill.

COLLOID MILLS (Homogenizing Equipment)

J. H. Day Co., 4932 Beech St., Cincinnati
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Gifford-Wood Co., 420 Lexington Ave., N. Y. C.
Manton-Gaulin Mfg. Co., Everett, Mass.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Troy Engine & Machine Co., Troy, Penna.

COLORS (Dyes for soaps, sprays, sweeping compounds, etc.)

American Cyanamid Co., Dyes Department, Bound Brook, N. Y.
Ansbacher-Siegle Corp., Rosebank, Staten Island, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Dye Specialties, Inc., 26 Journal Sq., Jersey City 6, N. J.
Fezandie & Sperrle, 205 Fulton St., N. Y.

Geigy Chemical Corp., Ardsley, N. Y.
General Dyestuff Co., 435 Hudson St., N. Y.
B. F. Goodrich Chem. Co., Haledon, N. J.
Hilton-Davis Chem. Co., 2235 Langdon Farm Rd., Cincinnati
L&R Organic Prods. Co., 50 White St., N. Y. 13
Leeben Color & Chem. Co., 103 Lafayette St., N. Y. 13
H. Kohnstamm & Co., 161 6th Ave., N. Y.
National Aniline Div., 40 Rector St., N. Y.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Sandoz, Inc., 61 Van Dam St., N. Y.

COLORS, CERTIFIED

American Cyanamid Co., Pigment Div., Bound Brook, N. J.
Ansbacher-Siegle Corp., Rosebank, Staten Island, N. Y.
Fezandie & Sperrle, 205 Fulton St., New York
Geigy Chemical Corp., Ardsley, N. Y.
H. Kohnstamm & Co., 161 6th Ave., New York
Leeben Color & Chem. Co., 103 Lafayette St., N. Y. 13
National Aniline Div., 40 Rector St., N. Y.
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
Whittaker, Clark & Daniels, 100 Church St., N. Y.

COMPLEXING AGENTS (see Sequestering Agents)

CONSULTANTS (Chemists, Engineers, Etc.)

Carl N. Anderson, 52 Vanderbilt Ave., N. Y. 17
Bennett-Rosendahl Co., 10 Columbus Circle, N. Y.
Bowen Engineering, Inc., 10 Station Rd., North Branch, N. J.
Alvin J. Cox, 1118 Emerson St., Palo Alto, Calif.
Hill Top Research Institute, Miamiville, O.
Hudson Laboratories, 117 W. 13th St., N. Y. 11
Industrial Bio-Test Labs., 1810 Frontage Rd., Northbrook, Ill.
Kroner Laboratories, Inc., 275 Water St., N. Y. C.
Leberco Labs., 123 Hawthorne St., Roselle Park, N. J.
Lawall & Harrison, 1921 Walnut St., Phila. Pa.
Lodes Aerosol Consultants, Inc., 730 5th Ave., N. Y.
John J. Mahoney, 106 W. 56 St., N. Y. C.
J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Molnar Laboratories, 211 E. 19th St., N. Y.
Donald Price, 123 E. 92nd St., N. Y. 28
Reed Research Corp., Mill St., Huntington, Shelton, Conn.
Rosner-Hixon Laboratories, 7937 S. Chicago Ave., Chicago
Scientific Associates, 3755 Forest Park, St. Louis 8
Foster D. Snell, 29 W. 15th St., N. Y.
Stillwell & Gladding, 130 Cedar St., N. Y.
Testfabric, P. O. Box 567, Plainfield, N. J.
Wells Labs., 25 Lewis Ave., Jersey City, N. J.
Wisc. Alumni Research Foundation, Madison, Wisc.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

CONTAINERS, PLASTIC (see Bottles, Plastic)

CONTAINERS, STEEL SHIPPING (see Drums, Steel or Pails, Steel)

CONTINUOUS PROCESS SOAP PLANTS

DeLaval Separator Co., Poughkeepsie, N. Y.
Emery Industries, Carew Tower, Cincinnati, O.
G. Mazzoni, Busto Arsizio, Italy
Meccaniche Moderne, Coro Sempione 51, Busto Arsizio, Italy
Sharples Corp., 23rd & Westmoreland Sts., Phila. 40
A. Savy, Jeanjean & Cie, Ave. Dubonnet, Courbevoie, France
Foster D. Snell, 29 W. 15th St., N. Y. 11
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chgo.

CONTRACT PACKAGING (see also Aerosol Filling for the Trade)

Ace Pak, Inc., 7230 S. Chicago Ave., Chicago 19
A-M-R Chem. Co., 985 E. 35th St., Brooklyn 10
Aerosol Techniques, Inc., 1730 State St., Ext., Bridgeport, Conn.
Armstrong Laboratories, 421 LaGrange St., Boston
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Britex Corp., 17 Lewis Wharf, Boston
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Capital Packaging Co., 1441 Circle Ave., Forest Park, Ill.
Chemical Enterprises, 1131 W. Devon Ave., Chicago 40
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Continental Filling Corp., 123 N. Hazel, Danville, Ill.
Curley Co., Inc., 1432 N. Randolph St., Phila. 22

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- Floor Products
- Polishes
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Federal Packaging Corp., 12160 South Peoria St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
Gard Industries, Inc., 1739 Harding Rd., Northfield, Ill.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Help, Inc., 122 W. Kinzie St., Chicago
R. Hurwich Co., 1043 Hearst Ave., Berkeley, Calif.
Iver's-Lee Co., 215 Central Ave., Newark, N. J.
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Klix Chemical Co., 551 Railroad Ave., South San Francisco, Calif.
Manufacturers Aid Co., 721 Grand Ave., Hoboken, N. J.
Old Empire Inc., Mt. Prospect & Verona Aves., Newark, N. J.
Paket, Inc., 9022 S. Baltimore St., Chicago
Peterson Filling & Packg. Co., Hegeler Lane, Danville, Ill.
Private Brands, Inc., 300 S. 3rd St., Kansas City 18, Mo.
Products Packaging, Inc., 6400 Herman Ave., Cleveland 2
Reily Chem. Co., Industrial Prods. Div., P. O. Box 98, New Orleans
John C. Stalfort & Sons, 319 W. Pratt, Baltimore
John T. Stanley Co., 642 W. 30th St., N. Y. 1
Stevens Wiley Mfg. Co., 1601 W. Glenwood Ave., Phila.
Texas Aersols, Inc., 201 Velasco St., Houston 3
Titan Chem. Industries, 3005 Huron St., Denver, Colo.
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
Western Filling Corp., 6423 Bandini Blvd., Los Angeles 23
Warsaw Chemical Co., Warsaw, Ind.

CONVEYORS (Bottles, Bags, Cans, Packages, etc.)

Alsop Engineering Corp., Milldale, Conn.
Automatic Scale Co., Joliet, Ill.
Chisholm-Ryder Co. of Pa., Hanover, Pa.
Clybourn Machine Corp., 6479 N. Avondale Ave., Chicago
Arthur Colton Co., 3431 E. Lafayette, Detroit
Crown Cork & Seal Co., Baltimore
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Economic Machy. Co., 60 Fremont St., Worcester, Mass.
Hope Machine Co., 9400 State Rd., Phila.
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh
Houchin Machinery Co., Hawthorne, N. J.
Island Equip. Corp., 1090 E. 31st St., Hialeah, Fla.
Paul L. Karstrom Co., 1822 W. 74th St., Chicago 36
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Link-Belt Co., 910 S. Michigan, Chicago
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
M. R. M. Co., 191 Berry St., Bklyn.
Newman Tallow & Soap Machy. Co., 1057 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Phila. 20
Rapids Machinery Co., Marion, Iowa
Read Standard Corp., York, Pa.
Henry Simon Ltd., Cheadle Heath, Stockport, England
Sprout Waldron & Co., Muncy, Pa.
Standard-Knapp, Div., Emhart Mfg. Co., Portland, Conn.
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Machine Co., Tabor Rd., Phila., Pa.
Syntron Co., Homer City, Pa.
Tite-Cap Machine Co., 57 Rose St., N. Y. 7
Triangle Packaging Machy. Co., 6633 W. Diversey Blvd., Chicago
U. S. Bottlers Machy Co., 4019 N. Rockwell St., Chicago
Weigh Right Automatic Scale Co., Joliet, Ill.
Young Machy. Co., Muncy, Pa.

COPOLYMERS (see Polymer Solutions)

COPPER NAPHTHENATE

Cuprinol Div.,—Darworth, Inc., Simsbury, Conn.
General Petroleum Corp., of Calif., 108 W. 2nd St., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Koppers Co., Chamber of Commerce Bldg., Pittsburgh 19
Naftone, Inc., 515 Madison Ave., N. Y. 22
Oronite Chemical Co., 200 Bush St., San Francisco
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Socony Mobile Oil Co., 150 E. 42nd St., N. Y. 17
Witco Chem. Corp., 122 E. 42nd St., N. Y. 17

COPPER SULFATE (Blue Vitriol)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
W. R. E. Andrews Sales, Inc., 1505 Race St., Philadelphia 2, Pa.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Irvington Smelting & Refining Co., 374 Nye Ave., Irvington, N. J.
Phelps Dodge Refining Corp., 40 Wall St., N. Y. 5
Robeco Chemicals, Inc., 25 E. 25th St., N. Y.
Tennessee Corp., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.

CORKING MACHINERY

Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Newman Tallow & Soap Mchy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
Tite-Cap Machine Co., 59 Rose St., N. Y.
U. S. Bottlers Mchy. Co., 4019 N. Rockwell St., Chicago

CORKS

Armstrong Cork Co., Lancaster, Pa.
Continental Can Co., 100 E. 42nd St., N. Y. 17
Dodge Cork Co., Lancaster, Pa.

CORN OIL

American Maize Prods. Co., 250 Park Ave., N. Y.
Balfour, Guthrie & Co., Ltd., 67 Wall St., N. Y.
Commercial Solvents Corp., 260 Madison Ave, N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Corn Products Sales Co., 17 Battery Pl., N. Y.
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
National Starch Products, 730 3rd Ave., N. Y. 17
Swift & Co., Hammond, Ind.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

CORN OIL FATTY ACIDS

Archer-Daniels-Midland Co., Minneapolis 2, Minn.
Armour & Co., 1355 W. 31st St., Chicago
Capital City Prods. Co., 525 W. 1st St., Columbus, O.
Corn Prods. Sales Corp., 17 Battery Pl., N. Y. 4
Emery Industries, Carew Tower, Cincinnati
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., 25 Main St., Belleville 9, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
A. E. Staley Mfg. Co., Decatur, Ill.
Swift & Co., Hammond, Ind.
Joseph Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wilson-Martin Div., Snyder Ave., & Swanson St., Phila.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

CORN STARCH (see Starch)

COSMETICS (Private Brand Compacts, Lipsticks, Etc.)

Analab Labs., 285 Franklin St., Boston 10
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Curley Co., 1432 N. Randolph St., Phila.
Flam-Haft Laboratories, 8 E. 12th St., N. Y. 3
Fluid Chem. Co., 878 Mt. Prospect Ave., Newark, N. J.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Zenith Drug Inc., 1 Vesey St., Newark, N. J.

COTTONSEED FATTY ACIDS (and Soapstock)

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
Capitol City Prods. Co., 525 W. 1st Ave., Columus 16, O.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y.
Harchem Div., 25 Main St., Belleville 9, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Southern Cotton Oil Co., 25 Broad St., N. Y.
Swift & Co., Hammond, Ind.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

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WOODLAWN 6-1526

COTTONSEED FATTY ACIDS (Contd.)

Wilson-Martin Div., Snyder & Swanson, Phila.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

COTTONSEED OIL

Archer-Daniels-Midland Co., Minneapolis 2
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Inc., Ridgefield, N. J.
Pacific Vegetable Oil Corp., 1145 10 St., Richmond, Calif.
Portsmouth Cotton Oil Refining Corp., Portsmouth, Va.
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
C. F. Simonin's Sons, Phila.
Southern Cotton Oil Co., 25 Broad St., N. Y.
Swift & Co., Hammond, Ind.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

COUMARIN (see also Aromatic Chemicals)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76 Ninth Ave., N. Y. 11
Givaudan-Delawanna, 321 W. 44th St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y. 13
Lautier Fils, 321 5th Ave., N. Y. 16
Magnus, Mabee & Reynard, 16 Debrosses Street, N. Y.
Maywood Chemical Wks., Maywood, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Neumann-Buslee & Wolfe, 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Orbis Prods. Corp., 601 W. 26th St., N. Y. 1
S. B. Penick & Co., 100 Church St., N. Y. 8
Polak & Schwarz, 667 Washington, N. Y.
Roubechez, Inc., 8 E. 12th St., N. Y.
Rhodia, Inc., 60 E. 56th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Sterwin Chemicals, Inc., 1450 Broadway, N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
Verona Aromatics, 26 Verona Ave., Newark, N. J.

CREOSOTE (see Coal Tar Raw Materials)

CRESOL COMPOUND, U.S.P. and Technical (see Disinfectants, Coal Tar)

CRESOLS

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Baird & McGuire, Inc., Holbrook, Mass.
Coal Tar Chemicals Corp., 420 Lexington Ave., N. Y.
Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
Hercules Powder Co., Wilmington
James Huggins & Son, 239 Medford St., Malden, Mass.
Koppers Co., Pittsburgh 19
Monsanto Chemical Co., St. Louis 4
Neville Chemical Co., Pittsburgh 25
Penna. Industrial Chem. Corp., Clairton, Pa.
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Riches-Nelson, Inc., 342 Madison Ave., N. Y.
Reilly Tar & Chemical Co., Merchants Bank Bldg., Indianapolis
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
U. S. Steel Corp., Pittsburgh 30

CRESYLIC ACID

American-British Chem. Supplies, 180 Madison Ave., N. Y 16
Atlantic Refining Co., 260 S. Broad St., Phila. 1
Baird & McGuire, Inc., Holbrook, Mass.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
Koppers Co., Pittsburgh 19
Merichem Co., 3101 Fannin St., Houston 4, Tex.
Monsanto Chemical Co., St. Louis 4
Oronite Chem. Co., 200 Bush St., San Francisco
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Reilly Tar & Chem. Corp., Merchants Bank Bldg., Indianapolis
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17
Shell Oil Co., 50 W. 50th St., N. Y. 20
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
Standard Oil Co., of Calif., San Francisco
Tar Residuals, Inc., 420 Lexington Ave., N. Y. 17
United States Steel Co., Pittsburgh 30
James Varley & Sons, 1200 Switzer Ave., St. Louis 15

CRUTCHERS

Edge Moor Iron Wks., Edge Moor, Del.
Houchin Machinery Co., Hawthorne, N. J.
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co. ,1051 W. 35th St., Chicago
H. K. Porter Co., Oliver Bldg., Pittsburgh
Struthers-Wells Co., Warren, Pa.

CUBE

Camilli, Albert & Laloue, 15 E. 48th St., N. Y. 17
Chemical Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Fairfield Chem. Div., 441 Lexington Ave., N. Y. 17
McLaughlin, Gormley, King Co., 1715 5th St., SE, Minneapolis
S. B. Penick & Co., 100 Church St., N. Y. 7
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.

CUTTING TABLES (see Soap Machinery)

CYANIDES (see Fumigants) (see Sodium Cyanide)

CYCLOHEXANE

Eastern States Pet. & Chem. Corp., Houston 12, Texas
Philips Petroleum Co., Bartlesville, Okla.
Shell Chem. Corp., 460 Park Ave., N. Y.

CYCLOHEXANOL

E. I. du Pont de Nemours & Co., Wilmington
Monsanto Chemical Co., St. Louis 24, Mo.
National Aniline Div., 40 Rector St., N. Y.

CYCLOHEXANONE

E. I. du Pont de Nemours & Co., Wilmington
National Aniline Div., 40 Rector St., N. Y.

DAUBERS (see Shoe Polish Daubers)

DAIRY SPRAYS (see Cattle Dips and Sprays)

DD FUMIGANTS

Shell Chemical Corp., 460 Park Ave., N. Y. 22
General Chem. Div., 40 Rector St., N. Y. 6

DDT (Dichloro-diphenyl-trichloroethane) (Technical)

Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chemical Div., 40 Rector St., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Michigan Chem. Corp., St. Louis, Mich.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center, Phila. 2
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

DDT FORMULATIONS (Liquids and Powders)

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
A-M-R Chemical Co., 985 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
Californa Spray-Chemical Corp., Richmond, Calif.
Chase Prods. Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Insecticide Corp., 30 Whiteman Ave., Metuchen, N. J.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Corp., Huntington, Ind.
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chem., Ardsley, N. Y.
General Chemical Div., 40 Rector St., N. Y.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
Hysan Products Co., 936 W. 38th Pl., Chicago
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
McLaughlin, Gormley, King Co., 1715 5th St., Minneapolis
Michigan Chemical Corp., St. Louis, Mich.
Midland Laboratories, Dubuque, Iowa
Miller Products Co., 1932 S. W. Water Ave., Portland, Ore.
S. B. Penick & Co., 100 Church St., N. Y.
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Puro Co., 2801 Locust St., St. Louis 3
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Shell Chem. Corp., 50 W. 50th St., N. Y. 20
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Swift & Co., Chicago 9
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kansas City 8
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chemical Co., 575 W. 131 St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Westvaco Chlor Alkali Div., 405 Lexington Ave., N. Y. 17
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

DEALERS (Chemicals)

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga .
Aceto Chem. Co., 40-40 Lawrence St., Flushing, N. Y.
Akron Chem. Co., 1025 Sweitzer Ave., Akron, Ohio
American-British Chem. Supplies, 180 Madison Ave., N. Y.
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
Axton-Cross Co., Shelton, Conn.
Baker & Gaffney, Drexel Bldg., Philadelphia
H. J. Baker & Bro., 271 Madison Ave., N. Y.
Barada & Page, Kansas City, Mo.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Banner Chemical Co., 20 N. Wacker St., Chicago
Berkshire Chemicals, Inc., 420 Lexington Ave., N. Y. 17
Britex Corp., 17 Lewis Wharf Boston 10
Buffalo Solvents & Chemicals Corp., Box 73 Station B, Buffalo 7, N. Y.
John H. Calo Co., 19 Rector St., N. Y. 6
Central Solvents & Chemical Co., 2540 W. Flournoy St., Chicago 12
John A. Chew, Inc., 60 E. 42nd St., N. Y.
Consumers Chemical Co., Drexel Bldg., Philadelphia
T. G. Cooper & Co., Cedar & Venango Sts., Phila. 34
Delta Chem. Wks., 23 W. 60th St., N. Y. 23
Dickerson Co., Drexel Bldg., Phia.
Dixie Sols. & Chems. Co., Dixie Highway, Louisville, Ky.
Doe & Ingalls, 56 Garden St., Boston
A. C. Drury & Co., 219 E. North Water St., Chicago
Eastern Industries, Ridgefield, N. J.
Eaton Clark Co., 1490 Franklin St., Detroit
Faesy & Besthoff, 25 E. 26th St., N. Y.
Alex C. Fergusson Co., Drexel Bldg., Phila.
Fort Pitt Chemical Co., 3134 Penn Ave., Pittsburgh
Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City
Globe Chemical Co., Murray Road, Cincinnati
Griffin Chem. Co., 1000 16th St., San Francisco
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
C. P. Hall Co., Akron, Ohio
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis
Hub States Chems. & Equipment ,1255 N. Windsor St., Indianapolis
Hummel Chemical Co., 90 West St., N. Y.
Innis Speiden & Co., 420 Lexington Ave., N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
E. & F. King & Co., 405 Atlantic Ave., Boston
P. J. Lo Bue Co., 277 Park Ave., N. Y.
Los Angeles Chem. Co., 2200 Santa Fe Ave., Los Angeles
John F. Maher & Co., 1600 Henderson St., Houston, Tex.
Merchants Chemical Co., 60 E. 42nd St., N. Y.
Millmaster Chem. Corp., 295 Madison Ave., N. Y.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Clarence Morgan & Co., 919 N. Michigan Ave., Chicago
Wm. D. Neuberg Co., 420 Lexington Ave., N. Y.
Neumann-Buslee & Wolfe, 5800 Northwest Highway, Indianapolis
Newman Tallow & Soap Machinery Co., 1051 W. 35th St., Chicago
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Philipp Bros. Chemicals, 37 Wall St., N. Y.
Prior Chem. Corp., 420 Lexington Ave., N. Y. 17
R. F. Revson Co., 144 W. 18th St., N. Y.
G. S. Robins & Co., 126 Chouteau Ave., St. Louis
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Southern Solv. & Chem. Corp., Jefferson Highway, New Orleans
K. A. Steel Chems. Inc., 7450 Stony Island Ave., Chicago
Tar Residuals, Inc., 420 Lexington Ave., N. Y.
Texas Solvents & Chemicals Co., 8501 Market St., Houston
Thompson-Hayward Chem. Co., 2915 Southwestern Blvd., Kansas City
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago



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Chas. A. Wagner Co., 4455 N. 6th St., Phila.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solv. & Chem. Co., 2940 Stafford Ave., SW, Grand Rapids

DEALERS (Oil and Fats)

Balfour, Guthrie & Co., 67 Wall St., N. Y.
John H. Calo Co., 19 Rector St., N. Y. 6
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Geo. Degen & Co., 111 Broadway, N. Y. 6
Delta Chem. Wks., 23 W. 60th St., N. Y. 23
Otto A. C. Hagen Corp., 929 Public Leadger Bldg., Phila.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y.
Leghorn Trading Co., 141 E. 44th St., N. Y. C.
Miller & Co., 2401 Chestnut St., Philadelphia
Murray Oil Products Co., 21 West St., N. Y.
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila.
Newman Tallow & Soap Machinery Co., 1501 W. 35th St., Chicago
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Willibald Schaefer Co., Foot of Boemen Ave., St. Louis
Sergeant Pulp & Chemical Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
K. A. Steel Chems., Inc., 7450 Stony Island Ave., Chicago
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

DECALCOMANIAS

Lehmann Printing & Lithographing Co., 300 2nd St., San Francisco
Meyercord Co., 5323 W. Lake St., Chicago 44
Palm Fechteler & Co., 99 Maple St., Weehawken, N. J.

DECOLORIZING CARBONS

Atlas Powder Co., Wilmington, Del.
Cliffs-Dow Chem. Co., Marquette, Mich.
R. W. Greeff Co., 10 Rockefeller Plaza, N. Y.
Industrial Chem. Sales Div., 230 Park Ave., N. Y.

DEFOAMERS

Air Reduction Chem. Co., 150 E. 42nd St., N. Y. C.
Antara Chems. Div., 435 Hudson St., N. Y.
Dow Corning Corp., Midland, Mich.
Emkay Chem. Co., Elizabeth 1, N. J.
Hercules Powder Co., Wilmington
Hodag Chem. Corp., 7247 N. Central Park, Chicago 45
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
M. Michel & Co., 90 Broad St., N. Y. 4
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City, N. J.
Silicones Div., Union Carbide Corp., 30 E. 42nd St., N. Y.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Swift & Co., Chicago
Wyandotte Chems. Corp., Wyandotte, Mich.

DEGREASING COMPOUNDS (see Cleaners)

DEODORANT SOAP (see Soaps, Antiseptics)

DEODORANTS (Basic chemicals for deodorant toilet soaps, lotions, etc.)

Catalin Corp. of Am., 1 Park Ave., N. Y.
Chemo Puro Mfg. Co., 150 Doremus Ave., Newark, N. J.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Heyden-Newport Chem. Co., 342 Madison Ave., N. Y. 17
Hilton-Davis Chemical Co., 2235 Langdon Farm Rd., Cincinnati
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Ottawa Chem. Co., 819 Hamilton, Toledo, O.
Rohm & Haas Co., Washington Sq., Phila.
Sindar Corp., 321 W. 44th St., N. Y.
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
R. T. Vanderbilt Co., 230 Park Ave., N. Y.

DEODORANTS, Room Deodorants, Air Conditioning, Etc., (see Listings under Disinfectants; Glycol Sprays; Aerosol Deodorants.)

DEODORIZED BASE OILS (See Insecticide Base Oils, Deodorized)

DEODORIZING BLOCK HOLDERS

Allied Block Chemical Co., 428 Bingham St., Pittsburgh
Chem. Service of Baltimore, Howard & West Sts., Baltimore
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Cin-Made Corp., 800 E. Ross Ave., Cincinnati 1
Eagle Soap Co., Huntington, Ind.
Franklin Metal Prods. Co., 16 W. Kinzie St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kleenaire Kemikils, 2227 24th St., Detroit
Shore Calnevar, Inc., 2881 E. Pico Blvd., Los Angeles
Uncle Sam Chem. Co., 573 W. 131st St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. Calif., Chicago 12

DEODORIZING BLOCKS AND CRYSTALS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Allied Block Chemical Co., 428 Bingham St., Pittsburgh
Airkem, Inc., 241 E. 44th St., N. Y.
A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Chem. Service of Balto., Howard & West Sts., Balto.
Click Chemical Co., Columbus & Carleton Ave., Mt. Vernon, N. Y.
Clifton Chemical Co., 150 Nassau St., N. Y. C.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Davies-Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hooker Chemical Corp., Niagara Falls, N. Y.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kleenaire Kemikils, Inc., 2227 24th St., Detroit
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Puritan Chemical Co., Atlanta, Ga.
Puro Co., 2801 Locust St., St. Louis
Sanders Chem. Co., 2205 N. American St., Phila. 33
I. Schneid, Inc., 765 Trabert Ave., N. W., Atlanta, Ga.
Solvay Process Div., 61 Broadway, N. Y.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
York Chemical Co., 23 Dean St., Bklyn.
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

DEODORIZING BLOCK PERFUMES (see Perfuming Compounds)

DEODORIZING BLOCK PRESSES (see Presses)

DEODORIZING AND BLEACHING EQUIPMENT (For Oils)

Blaw-Knox Corp., Chicago
Foster-Wheeler Co., 165 Broadway, N. Y.
William Garrigue & Co., 9 S. Clinton St., Chicago
Girdler Process Equipment Div., Louisville, Ky.
Houchin Machinery Co., Hawthorne, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
F. J. Stokes Machine Co., 5918 Tabor Rd., Phila.
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

DERRIS

Chemical Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Fairfield Chemical Div., 441 Lexington Ave., N. Y.
McLaughlin, Gormley, King Co., 1715 5th St., SE, Minneapolis
Olin Mathieson Chem. Corp., Baltimore 3
S. B. Penick & Co., 100 Church St., N. Y. 7
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.

DETERGENT FEEDERS (see Soap Dispensers) (Dishwashing Compound)

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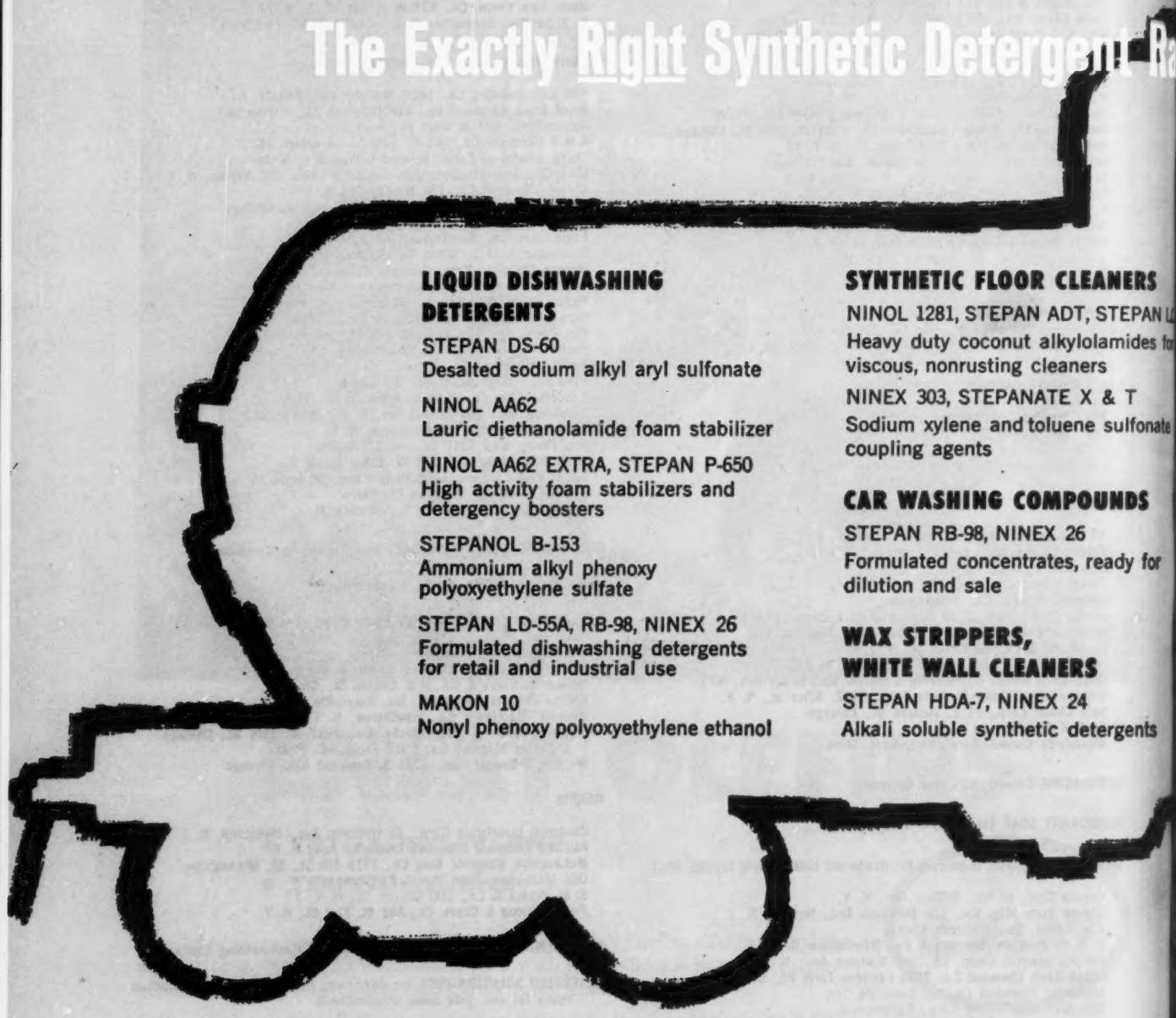
DETERGENT INTERMEDIATES

Air Reduction Chem. Co., 150 E. 42nd St., N. Y. 17
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Amer. Potash & Chem. Corp., 3030 W. 6th Sa., Los Angeles
Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Antara Chemicals, 435 Hudson St., N. Y.
Archer Daniels Midland Co., Minneapolis 2
Atlantic Refining Co., 260 S. Broad St., Philadelphia 1

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Dehydag Deutsche Hydrierwerke, Henkelstrasse 67, Dusseldorf, Germany
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Enjay Co., 15 W. 51st St., N. Y. 19
Finetex, Inc., 418 Falmouth Ave., Paterson, N. J.
Geigy Industrial Chems., Ardsley, N. Y.
Hercules Powder Co., Wilmington,
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Marchon Prods., Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
National Aniline Div., 40 Rector St., N. Y.
Nitrogen Div., 40 Rector St., N. Y.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Oronite Chemical Co., 200 Bush St., San Francisco 20
Pennsalt Chems. Corp., 3 Penn Center, Phila.
Pilot California Co., 215 W. 7th St., Los Angeles
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Refined Products, Inc., Lyndhurst, N. J.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Shell Chemical Corp., 50 W. 50th St., N. Y. 20
Sole Chem. Corp., 27 E. Monroe St., Chicago
Solvay Process Div., 61 Broadway, N. Y.
I. Sonneborn Sons, 300-4th Ave., N. Y. 10
Stepan Chem. Co., 427 W. Randolph St., Chicago
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Van Dyk & Co., Belleville 9, N. J.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Witco Chem. Corp., 122 E. 42nd St., N. Y. 17
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

DETERGENT SPRAY TOWERS

Bowen Engineering, Inc., 10 Station Rd., North Branch, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Foster D. Snell, Inc., 29 W. 15th St., N. Y. 11
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

DETERGENTS (Alkali Type)

ABC Compounding Co., 1624 Marietta Ave., Atlanta, Ga.
Armour & Co., 1355 W. 31st St., Chicago 9
Atlantic Refining Co., 260 S. Broad St., Phila.
Baird & McGuire, Inc., Holbrook, Mass.
Buckingham Wax Co., 51-03 Van Dam St., LIC, N. Y.
Britex Corp., 17 Lewis Wharf, Boston
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Continental Chemical Co., 195 21 Ave., Paterson, N. J.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Diversey Corp., 1820 W. Roscoe St., Chicago
DuBois Co., Cincinnati
E. I. du Pont de Nemours & Co., Wilmington
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Economics Laboratory, Guardian Bldg., St. Paul
Emkay Chem. Co., Elizabeth 1, N. J.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Prods., Inc., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore, Md.
J. Chemical Wks., 602 W. 37th St., N. Y.
General Chem. Div., 40 Rector St., N. Y. 6
Haag Laboratories, 14000 S. Seeley Ave., Blue Island, Ill.
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Hysan Products Co., 936 W. 38th Pl., Chicago
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
M. Michel & Co., 90 Broad St., N. Y.
Moss Soap Co., Pinellas Int'l Airport, St. Petersburg, Fla.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.

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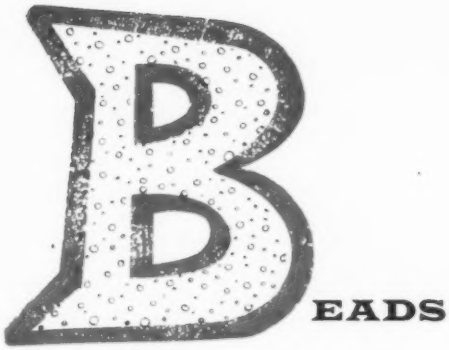
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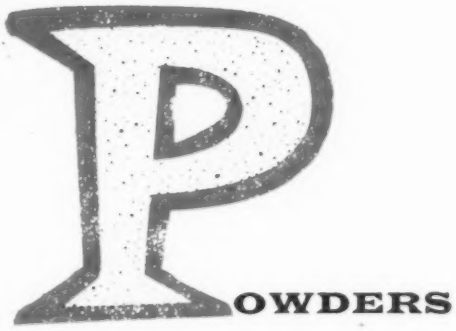
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Alkyl aryl sulfonates, amine condensates—all can be supplied by Ultra. This one-source service saves time . . . saves money. One order, one delivery, and one invoice . . . and all products can be combined for quantity price!

Get the detergent type you need in the form you want it. Ask our representative for details on the complete Ultra line—and how combined-item purchasing can save you money.

SPRAY-DRIED
- Sulframin® AB 40 Beads . . . neutral alkyl aryl
- Sulframin HD Beads . . . built alkyl aryl
- Neopône® LO Beads . . . built non-ionic

DRUM-DRIED
- Sulframin AB 40 Flakes and Powder
- Sulframin AB Conc. Flakes and Powder

LIQUIDS
- Sulframin KE . . . alkyl aryl
- Sulframin AB . . . alkyl aryl
- Sulframin E . . . alkyl aryl and non-ionic
- Ultrapoles® . . . amine condensates

ULTRA Chemical WORKS

Headquarters for all your detergent needs

ULTRA CHEMICAL WORKS

DIVISION OF WITCO CHEMICAL COMPANY

2 Wood Street, Paterson, N. J.

DETERGENTS (Akali Type) (Contd.)

Olin Mathieson Chem. Corp., Baltimore 3
Peck's Products, 610 E. Clarence Ave., St. Louis
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Philadelphia Quartz Co., 1146 Public Ledger Bldg., Phila.
Port Huron Detergent Co., Port Huron, Mich.
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Solvay Process Div., 61 Broadway, N. Y.
L. Sonneborn Sons., 300-4th Ave., N. Y. 10
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Stepan Chem. Co., 427 W. Randolph St., Chicago
Swift & Co., Chicago 9
Theobold Industries, P. O. Box 72, Harrison, N. J.
Treplow Products, Inc., 59 Camden St., Paterson, N. J.
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kancas City
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.
Veneer-O-Wax Corp., 2010 E. Fletcher St., Phila.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago
Virginia-Carolina Chem. Corp., 501 E. Main St., Richmond, Virginia
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17
Wyandotte Chemicals Corp., Wyandotte, Mich.

DETERGENTS, SYNTHETIC (Anionic), alkyl aryl sulfonates

Armour & Co., 1355 W. 31st St., Chicago 9
Antara Chemicals, 435 Hudson St., N. Y.
Ardmore Chem. Co., 840 Valley Brook Ave., Lyndhurst, N. J.
Atlantic Refining Co., 260 S. Broad St., Phila. 1
Atlas Powder Co., Wilmington 99, Dela.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Krystall Chem. Co., 2108 N. Southport Ave., Chicago 14
Lever Brothers Co., 390 Park Ave., N. Y. 22
Marchon Prods. Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, 65 E. 23rd St., Paterson, N. J.
National Aniline Div., 40 Rector St., N. Y.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Oronite Chemical Co., 200 Bush St., San Francisco 20
Petro Chemicals Co., 301-5 Danciger Bldg., Fort Worth Tex.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 427 W. Randolph St., Chicago
Surfacto Co., Inc., Box 114, Blue Island, Ill.
Swift & Co., Chicago 9
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Witco Chem. Co., 122 E. 42nd St. N. Y. 17
Wyandotte Chemicals Corp., Wyandotte, Mich.

DETERGENTS, SYNTHETIC (Amphoteric), general

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y.
Continental Chemical Co., 195 21st Ave., Paterson, N. J.
Dominion Prods. Co., 10-40 44 Dr., Long Island City
Emkay Chem. Co., Elizabeth 1, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
General Mills, Kankakee, Ill.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Rohm & Haas Co., Washington Sq., Phila.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 427 W. Randolph St., Chicago 6
Treplow Prods., Inc., 50 Camden St., Paterson, N. J.

New Detergent Chemical Producer Begins Operations in New Jersey

Lyndhurst, N. J. March 30, 1959

Ardmore Chemical Company has started the production of detergents and detergent chemicals on a six acre tract located in this city, 6 miles from New York.

The plant has been under construction for seven months.

Albert Sharphouse, President, indicated that Ardmore would supply producers of household and industrial detergents.

Fred Buck, Vice-President, is in charge of Sales. Both men were formerly associated with the Ultra Chemical Works.

If you are a manufacturer of finished liquid or dry detergents, cleaning compounds or cosmetics, you will want the facts on Ardmore's Detergent Chemicals including, alkyl aryl sulfonates in slurry, liquid and dry forms.

Please write or phone for detailed information.

Ardmore Chemical Company, Inc.

DETERGENT CHEMICALS

840 Valley Brook Ave. Lyndhurst, N. J.

10 LEADING DERIVATIVES among our AMPHOTERIC SURFACTANTS*

The following Miranol Amphoteric Surfactants constitute ten of our leading derivatives, some of which differ primarily in their fatty acid radical and others which represent modifications through intricate chemical reactions. Each one has particular advantages to offer for specific uses.

*U. S and Foreign Patents

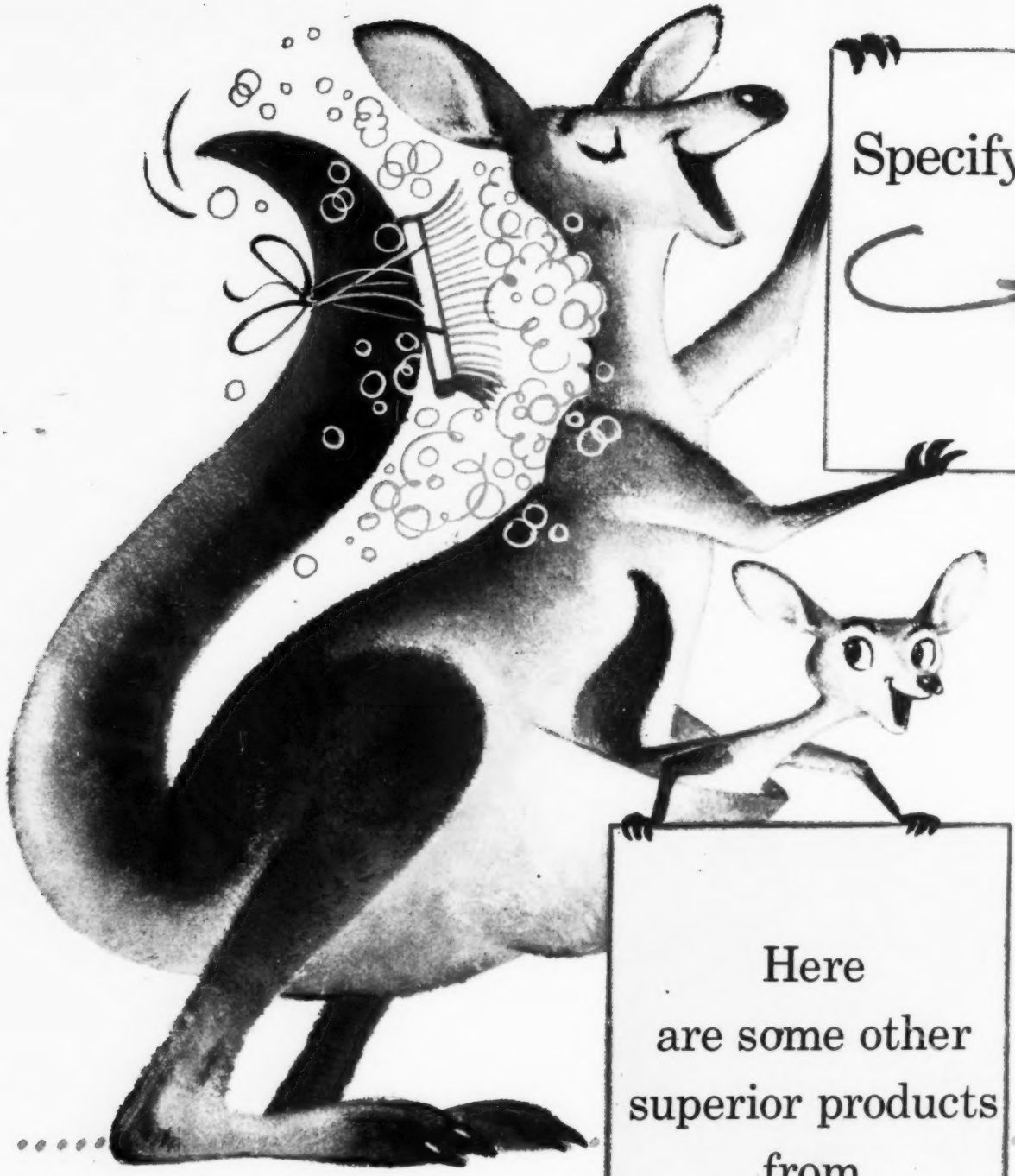
Product	Derivative	Main Uses	Form	Remarks
Miranol CM CONC.**	Coconut **Monocarboxylic	Detergent	Liquid	General purpose high alkali and stable grease emulsifying agent. An outstanding detergent with exceptional wetting power. Extreme chemical and physical stability over entire pH range. High tolerance for alkalies and electrolytes. Fully compatible with all anionic, cationic and non-ionic agents. Specially suited for liquid heavy duty household and industrial cleaners, liquid steam cleaning compounds, white wall tire cleaners, etc.
Miranol C2M CONC.**	Coconut Dicarboxylic	Detergent	Liquid	For cosmetic and pharmaceutical applications. Outstandingly mild, non-irritating surfactant, yet with extremely high tolerance . . . up to 50% for alkalies and/or electrolytes. Uses . . . shampoos, creams, lotions, topical applications, heaviest duty liquid cleaning compounds, liquid household laundry compounds. Partly interchangeable with Miranol CM CONC.
Miranol HM CONC.	Lauric	Detergent	Liquid	Interchangeable with Miranol CM CONC. Suggested for applications where a pure lauric derivative is basic requirement.
Miranol SM CONC.**	Capric	Detergent Emulsifier	Liquid	Outstanding detergent with exceptional spreading but low penetrating properties. Specifically recommended for medicated shampoos, on location rug shampoos, germicidal hand soaps and soap detergent combinations. Polymerization emulsifier. It has greatest surface tension reducing properties of all Miranol surfactants.
Miranol OM-SF CONC.	Oleic	Detergent Emulsifier	Liquid	Salt free amphoteric detergent and emulsifier. For low priced high viscosity cleaning formulations, non-absorbency build-up preventive in cationic home laundry softeners.
Miranol L2M-SF CONC.	Linoleic	Detergent	Liquid	Detergent capable of holding alkalies and electrolytes in emulsions such as cleaning waxes. Does not readily redissolve.
Miranol J2M CONC.	Caprylic	Wetting	Liquid	Wetting agent for use in solutions containing 3 to 23% caustic soda, as well as other solutions of high solid content. Used in dairy cleaners, bottle washing, food peeling, alkaline degreasing, mercerization, kier boiling, etc.
Miranol DM	Stearic	Softener	Paste	Low priced fabric softener and hair conditioner.
Miranol MSA Modified	Amphoteric Salt	Detergent	Liquid	Non-irritating to skin and eyes; shampoo base, also for impregnating paper and fabric; for skin and body wash, etc.
Miranol 2MCA Modified	Amphoteric Salt	Detergent	Liquid	Same as MSA Modified.

***Also available in salt-free form.*

Samples and technical information upon request for above and other Miranol Derivatives.

MIRANOL

THE MIRANOL CHEMICAL CO., INC.
275 COIT STREET,
IRVINGTON, N. J.
Tel: ESsex 4-2500



CONOCO LS-320 (SULFONIC ACID)

Conoco LS-320 is used profitably to make anionic surface active agents with extremely *high activity and purity*. It is readily adaptable for processing of both liquid and dry detergents, and is exceptionally useful to textile chemical processors who produce wetting agents and scouring compounds. It's economical because of minimum neutralization costs, low salt content which eliminates costly salt extraction, reduces need for coupling agents and is virtually odorless.

NEOLENE 400

the intermediate for alkyl aryl detergents

The proven chemical intermediate . . . NEOLENE® 400 . . . is used by many of the world's leading processors of detergents and surfactants. It is an alkyl benzene of the highest quality and is an exceptional base for both liquid and dry detergents. Why not put NEOLENE 400 to work for you? Its many characteristics include:

- Stability during sulfonation
- Uniformity and purity
- Excellent color and odor
- Makes products with exceptional wetting, cleansing and foam properties

For more information about NEOLENE 400 and the other fine Conoco products listed below, may we suggest you call or write today!

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1270 Avenue of the Americas, N. Y. 20, N. Y. • Export Division, Englewood, New Jersey
Chicago: Prudential Bldg. • New Orleans: Commerce Bldg.
European Sales Office: Box 1207, Rotterdam, The Netherlands

CONSIDER CONTINENTAL'S:

Quality • NEOLENE 400 is consistently high in quality as are all other Conoco petrochemicals. This reputation for quality is the result of steadily improved production facilities and Conoco's determination to find better ways to produce superior products.

Quick Delivery • Conoco's extensive distribution facilities assure you fast service, whether by tank car, tank truck, or barge. This assurance of quick, efficient delivery simplifies your own inventory and storage problems.

Technical Assistance • Whether you purchase in large or small quantities, Conoco technicians stand ready to help you improve a product or a process, to find new applications, to suggest ways of cutting costs.

CONOCO Petrochemicals®

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SULFONATES

If you manufacture dry cleaning detergents, industrial cleaning compounds, textile oils or metal-working oils, Conoco offers you petroleum sulfonates tailored specifically for your needs. Conoco's sodium petroleum sulfonates range in molecular weight from 430 to 520. Other products are calcium, barium, ammonium and amine sulfonates. All Conoco sulfonates are available for prompt delivery.

WHITE OILS AND PETROLATUMS

Conoco white oils and petrolatums are carefully produced to give you consistent uniformity and top quality. Conoco U.S.P., N.F., and Technical White Mineral Oils range in Saybolt viscosity from 40 to 515. These products have found many applications in the cosmetic and textile industries. Why not investigate the possibilities for Conoco white oils and petrolatums in your operations! We'll be glad to supply you with samples.

FINETEX

SULPHONATED PRODUCTS DETERGENTS

RUETERG

A classification of a series of
Alkyl Aryl Sulphonates

RUETERG 97S — Liquid 88% active. High foam stability. Excellent detergency. 1% free oil — 2% water.

RUETERG 57M — Liquid 42.2% active. Excellent resistance to hard water.

RUETERG 40T — Low cloud point, light color. 27% active.

RUETERG SULPHONIC ACID — Concentrated Alkyl Sulphonic Acid, 70% active. Raw Material for producing liquid detergents.

RUETERG 40U — Liquid, 26% active. High cloud point. Low price.

TAURANOL

Sulfonated Fatty Acid Amide Detergent

TAURANOL MS — Slurry form, 45.8% active. (Sodium-N-Methyl-N-Oleoyl Taurate)
TAURANOL ML — Liquid form, 33.3% active.
TAURANOL MG — Clear, bright, heavy gel.

Covers wide range of detergent applications where high foam and good stability is required.

Alkyl Group as Follows

TAURANOL MS, ML, MG — Oleic Acid
TAURANOL DL, DG — Tall Oil Acid
TAURANOL RS — Tallow Acid
TAURANOL WS, WL — Coconut Oil Acid
SULPHONATED OILS — Olive, Sperm, Castor, Peanut, Red, Linseed and Tall

High and Low Sulphonations
Contract Sulphonations
Emulsifying Agents

Write or phone for technical bulletins on each or any of these products. Special bulletin issued on *Emulsifying With RUETERG 97S,* including formulations for solvents, animal, vegetable and mineral oils for general cleaners and others. Price quotations submitted upon request.

FINETEX INCORPORATED
Manufacturing Chemists
418 Falmouth Avenue
East Paterson, N. J.

DETERGENTS, SYNTHETIC (Anionic), alkyl aryl sulfonates (Contd.)

Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17
Wyandotte Chems. Corp., J. B. Ford Div., Wyandotte, Mich.

DETERGENTS, SYNTHETIC (Anionic), alkyl sulfates

American Alcolac Corp., 3440 Fairfield Rd. Baltimore 26
Carlstadt Chem. Co., 430 13th St., Carlstadt, N. J.
DeHydag Deutsche Hydrierwerke, Henkelstrasse 67, Dusseldorf, Germany
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Krystall Chem. Co., 2108 N. Southport Ave., Chicago 14
Marchon Prods., Inc., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Petrochemicals Co., 301-5 Danciger Bldg., Forth Worth, Tex.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y.
Stepan Chemical Co., 427 W. Randolph St., Chicago
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Van Dyk & Co., Belleville 9, N. J.
Warwick Chemical Co., 10-10 44th Ave., Long Island, N. Y.

DETERGENTS, SYNTHETIC (Anionic), alkyl sulfonates

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Antara Chemicals, Div. GAF, 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Carlstadt Chem. Co., 430 13th St., Carlstadt, N. J.
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kamen Soap Co., 233 Broadway, N. Y. 7
M. Michel & Co., 90 Broad St., N. Y. 4
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Petrochemicals Co., 301-5 Danciger Bldg., Fort Worth, Tex.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 427 W. Randolph St., Chicago
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17

DETERGENTS, SYNTHETIC (Anionic), sulfated and sulfonated amides and amides

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, 435 Hudson St., N. Y. 14
Carlstadt Chem. Co., 430 13th St., Carlstadt, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Krystall Chem. Co., 2108 N. Southport Ave., Chicago 14
Marchon Prods., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Surfacto Co., Inc., Box 114, Blue Island, Ill.
Swift & Co., Chicago
Treplow Products, 59 Camden St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
Warwick Chem. Co., 10-40 44th Ave., Long Is. City, N. Y.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

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by TREPLOW

. . . . . manufactured by a unique sulfur trioxide process developed by TREPLOW'S laboratories. Surfactant properties, long striven for by detergent and chemical specialty manufacturers, have been attained; stability, color, foam, detergency and purity meet and surpass the most rigid specifications.

ese Products Of Our Extensive, Yet Ever Expanding Line Of Surfactants, Can Be Of Help To You:

ALKYL ARYL SULFONATES:

POLATE ACID — *dodecyl benzene sulfonic acid — 95-97% active* — most economical and versatile — can convert directly to slurry, liquid or dry product — not confined to any one salt — very low in sulfuric acid (low sulfate end product) — can be modified to be 97-98% active — labor and time-saving.

REPOLATE ACID H — *dodecyl benzene sulfonic acid — min. 92% active* — has similar properties of TREPOLATE ACID except lower concentration — somewhat higher salt content — considerably lighter in color.

TREPOLATE L-40 — *sodium dodecyl benzene sulfonate slurry — 40% active* — Homogenous — easily adaptable for liquid and dry products.

TREPOLATE F-40 or P-40 — *sodium dodecyl benzene sulfonate — flake/powder 40% active* — uniform particle size — custom made to fit your specifications.

TREPOLATE F-85 or P-85 — *sodium dodecyl benzene sulfonate — flake/powder 85% active* — whiter color — outstanding in sudsing and dispersion properties.

TREPOLATE F-95 — *sodium dodecyl benzene sulfonate — flake — 95% min. active.* Highest purity — practically salt-free — excellent emulsifier.

TREPOLATE T-60 — *TEA dodecyl benzene sulfonate — 60% active* — excellent water solubility — free of inorganic salts.

TREPOLATE YLA — *amine dodecyl benzene sulfonate — min. 95% active* — designed for kerosene emulsion degreasers and charge systems.

ALKYL SULFATES:

TREPENOL WA — *sodium lauryl sulfate paste — 30% active — NaCl* content nil — outstanding in foam and detergency — excellent for liquid and paste cream shampoos — low salt content makes it advantageous for emulsion polymerization of resins.

TREPENOL WAT — *TEA lauryl sulfate — liquid — 45% active* — low cloud point — excellent detergent for liquid clear shampoos.

TREPENOL AM — *ammonium lauryl sulfate — liquid — 30% active* — for use in acid pH shampoos — good color and odor.

TREPENOL EP — *DEA lauryl sulfate — liquid — 40% active* — good color stability — low cloud point for liquid clear shampoos.

TREPENOL MG — *magnesium lauryl sulfate — liquid — 30% active* — excellent for rug cleaning formulations — has good suspending properties — dries to a powder — can be easily vacuumed.

SULFATED ESTERS:

TREPENE SULFATE — *sodium di-octyl sulfosuccinate* — instantaneous wetter — superior for surface tension lowering.

ETHOXYLATED SULFATES:

TREPENOL E.O. ACID — *nonyl phenol polyglycol ether sulfuric acid* — a recent development of TREPLOW laboratories — a relatively stable sulfuric acid designed for liquid dishwashing compounds — affords greater versatility in formulating — labor and time saving, not to mention, storage — lends itself to greater concentration of end product.

TREPENOL A-60 — *ammonium nonyl phenol polyglycol ether sulfate — 60% active* — for use in liquid dishwashing compounds — gentle to hands — good foamer — excellent detergency — acid pH.

TREPENOL S-40 — *sodium nonyl phenol polyglycol ether sulfate — 40% active* — for alkaline based liquid dishwashing compound — high foamer — excellent detergency.

TREPENOL T-100 — *TEA nonyl phenol polyglycol ether sulfate — 100% active* — highest concentrate possible only through TREPLOW research — inorganic salt free — economical.

TREPENOL S-30-T — *sodium tridecanol polyglycol ether sulfate — 30% active* — based on a synthetic "lauryl" alcohol — low cloud point — compatible, to a degree, with cationics — excellent shampoo base — foams better in hard water than in distilled water.

TREPENOL T-100-T — *TEA tridecanol polyglycol ether sulfate — 100% active* — anhydrous product — excellent emulsifier and coupler — extremely mild.

ALKANOLAMIDES:

TREPOLINE 505 — *DEA fatty acid condensate* — most economical of all fatty acid alkanolamides — auxiliary emulsifier and thickener — low foamer.

TREPOLINE CN-61 — *DEA cocoanut oil condensate* — recommended for floor cleaners — heavy duty type.

TREPOLINE L — *DEA lauric acid condensate* — excellent foam stabilizer for anionic detergents.

TREPOLINE LM-46 — *DEA lauric acid condensate — concentrate* — high concentration of TREPOLINE L — excellent for foam and viscosity control.

TREPOLINE S-4 — *DEA cocoanut oil condensate* — light in color — good foam stability — humectant properties.

TREPOLINE M-3 — *DEA cocoanut oil condensate — concentrate* — higher concentrate of S-4 type — chemically compatible with quaternary ammonium compounds.

Our laboratories are available for further refinement of present products. Inquiries for the development of new products for application in all industries are invited.

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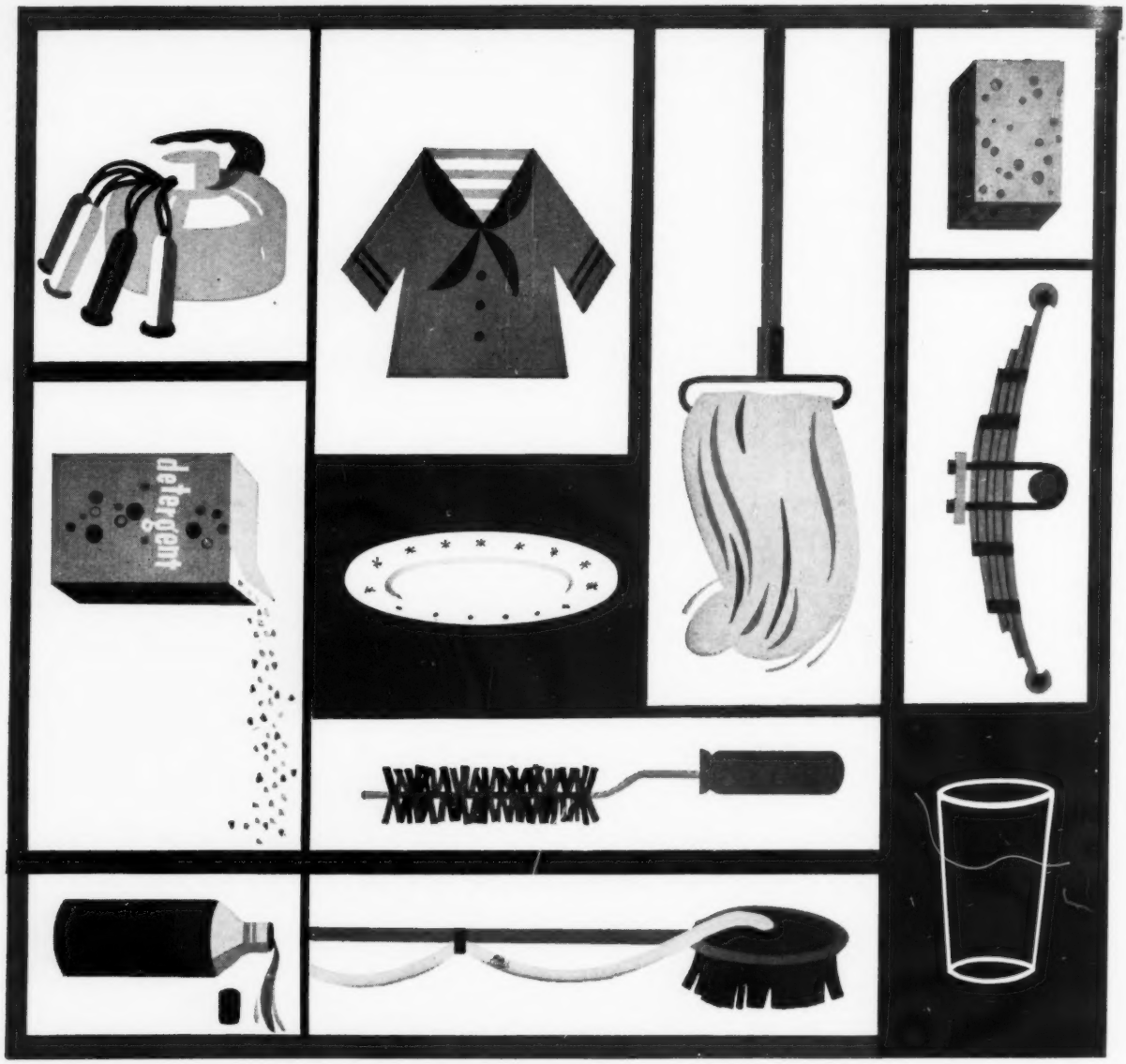
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IMPROVES JUST ABOUT ANY CLEANING COMPOUND

TRITON X-100 is one of the most versatile non-ionic surfactants ever developed. Nothing can touch it for overall efficiency as a detergent and for preventing soil redeposition on cleaned surfaces. Today, you find it in liquid and powdered detergents for dish washing and laundering, scrub detergents, car washing compounds, dairy detergents, metal cleaners, and many other cleaning compounds. TRITON X-100 is compatible with alkaline builders, other surfactants and with sanitizers such as HYAMINE 3500, the new "hard water" quaternary germicide. In "use" concentrations it is non-toxic . . . and best of all, a little goes a long way in your liquid or powdered formulations.

Chemicals for Industry

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TRITON X-100

DETERGENTS, SYNTHETIC (Anionic), Miscellaneous types

Armour & Co., 1355 W. 31st St., Chicago
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Antara Chemicals, 435 Hudson St., N. Y.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Ardmore Chem. Co., 840 Valley Brook Ave., Lyndhurst, N. J.
Colgate-Palmolive Co., 300 Park Ave., N. Y.
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Hewitt Soap Co., 333 Linden Ave., Dayton 3, O.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Knapp Products, Inc., Lodi, N. J.
Krystall Chem. Co., 2108 N. Southport Ave., Chicago 14
Marathon Corp., Chem. Sales Dept., Rothschild, Wisc.
Marchon Prods., Ltd., Whitehaven, Cumberland, England
Maywood Chem. Wks., 100 W. Hunter Ave., Maywood, N. J.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
National Aniline Div., 40 Rector St., N. Y.
Nopco Chem. Co., 60 Park Pl., Newark, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Petrochemicals Co., 301-5 Danciger Bldg., Fort Worth, Tex.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Process Chems. Co., 8733 S. Dice, Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati
Quaker Chem. Prods., Conshohocken, Pa.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Products, Inc., 624 Schuyler Ave., Lyndhurst, N. J.
Rohm & Haas Co., Washington Sq., Phila.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chemical Co., 427 W. Randolph St., Chicago
Surfacto Co., Inc., Box 114, Blue Island, Ill.
Swift & Co., Chicago
Tennessee Corp., 617 Grand Bldg., Atlanta, Ga.
Treplow Products Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.
Witco Chem. Co., 122 E. 42nd St., N. Y.

DETERGENTS, SYNTHETIC (Cationic), for bacteriocidal uses

Armour & Co., 1355 W. 31st St., Chicago 9
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Continental Oil Co., 1270 Av. of Americas, N. Y. 20
Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas Co., Washington Sq., Phila.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
Tanatex Chem. Corp., Belleville Turnpike, Kearny, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y.

DETERGENTS, SYNTHETIC (Cationic), general

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Antara Chemicals, 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Continental Oil Co., 1270 Av. of Americas, N. Y. 20
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emkay Chem. Co., 319 2nd Ave., Elizabeth, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Knapp Prods., Inc., Lodi, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Process Chems. Co., 8733 S. Dice Rd., Los Angeles, Calif.
Procter & Gamble Dist. Co., Cincinnati
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Prods., Inc., 624 Schuyler Ave., Lyndhurst, N. J.
Rohm & Haas Co., Washington Square, Phila. 5
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Witco Chem. Co., 122 E. 42nd St., N. Y.

DETERGENTS, SYNTHETIC (Finished), liquid, non-sudsing

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Armour & Co., 1355 W. 31st St., Chicago 9
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Baird & McGuire, Inc., Holbrook, Mass.
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Britex Corp., 17 Lewis Wharf, Boston
Chem. Service of Balto., Howard & West Sts., Balto. 30
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Chem. Co., 195 21st Ave., Paterson, N. J.
Deko Chem. Co., 764 N. Hawthorne Blvd., Hawthorne, Calif.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Dura Wax Co., McHenry, Ill.
East Coast Soap Corp., 89 Coffee St., Bklyn. 31
Emkay Chem. Co., 319 2nd St., Elizabeth N. J.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Prods., Inc., 119 E. Soper St., St. Louis 11
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore 31
Haag Laboratories, 14000 S. Seeley, Blue Island, Ill.
Help, Inc., 122 W. Kinzie St., Chicago
Hysan Products Co., 936 W. 38th Pl., Chicago
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Klenzade Prods., Beloit, Wisc.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
Moss Soap Co., Pinellas Int'l Airport, St. Petersburg, Fla.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Peck's Prod's. Co., 610 E. Clarence Ave., St. Louis 15
Procter & Gamble Dist. Co., Cincinnati
Puro Co., 2801 Locust St., St. Louis, Mo.
Reilly Chem. Co., P. O. Box 98, New Orleans, La.
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Sanders Chem. Co., 2205 N. American St., Phila. 33
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010 E. Fletcher St., Phila.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8

DETERGENTS, SYNTHETIC (Finished), liquid, sudsing

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Antara Chemicals, 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Atlantic Refining Co., 260 Broad St., Phila.
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Baird & McGuire, Inc., Holbrook, Mass.
Betco Corp., 830 Elysian Ave., Toledo 7, O.
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Britex Corp., 17 Lewis Wharf, Boston
Carlstadt Chem. Co., 430 13th St., Carlstadt, N. J.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Chem. Service of Balto., Howard & West Sts., Balto.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Chem. Co., 195 21st Ave., Paterson, N. J.
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
Dura Wax Co., McHenry, Ill.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Essential Chems. Co., 5906 N. Port Washington Rd., Milkaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Div., 2841 S. Ashland Ave., Chicago
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Prods., 119 E. Soper St., St. Louis
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore

Now, the first complete export service for the synthetic detergent industry

Stanalchem Inc., pioneers and leaders in bringing new syndet developments to overseas markets now offer the first specialized export service — a complete line of (1) quality raw materials, (2) semi-finished detergents that are easy to formulate, (3) profit-making "built" syndets, (4) dependable equipment, (5) comprehensive technical assistance. This versatility, backed by eighteen years of individualized experience, permits Stanalchem to adapt their offerings to the specific needs of the overseas customer — his foreign exchange position, prevailing ocean freight rates and local customs tariff requirements. Let Stanalchem show you how this can mean bigger sales, larger profits.

STANALENE DODECYLBENZENE

A petroleum based hydrocarbon developed to yield when sulfonated, finished detergent (solid, paste or liquid) of the alkyl aryl type combining a high degree of detergency, wetting, foaming, emulsifying and dispersing properties, with good color and little or no odor.

STANALTERG DH BEADS

A built all-purpose household detergent in dust-free bead form possessing excellent detergency and foaming characteristics. It is supplied in drums for local packaging. Also used as a detergent and cleanser for hospitals, dairies, factory buildings, railroad cars, motor cars, etc.

STANALOL FATTY ALCOHOLS

Technical and pure Lauryl, Cetyl, Stearyl, and other fatty alcohols used principally in the manufacture of shampoos, textile auxiliary chemicals, detergent additives, quaternary ammonium compounds and cosmetics.

STANALONIC SA-096

An essentially 100% active non-ionic detergent and emulsifying agent for use in the textile industry. Excellent resistance to acids and alkalies. Used also for emulsifying mineral oils for agricultural uses, for formulating liquid detergents, glass, metal and dairy cleaners.

STANALTERG 80

A concentrated 80/85% sodium alkyl aryl sulfonate in powder or flake form. An excellent starting point for detergent formulation; little equipment is necessary to blend STALANTERG 80 with Sodium Phosphates, CMC or other "builders" to produce household and industrial detergents.

CLUE

Stanalchem offer their own brand of packaged household all-purpose detergent for cottons, delicate garments and dishwashing under their trade mark CLUE. This excellent detergent is supplied in attractive retail packages, or in bulk under the denomination STANALTERG DH Beads.

UNITIZED SHIPMENTS

of non-hazardous liquid chemicals in portable tanks of 2500 to 10000 gallons.

OTHER CHEMICALS

Stanalchem is a competitive source for all detergent raw materials and intermediates including:

Caustic Soda, Sodium Polyphosphates, Sodium Metasilicate, Sodium CMC, Whitening Dyes, Detergent Additives, Detergent Slurries, Ethanolamines, Soda Ash, Textile Chemicals, Propylene Tetramer, Oxo Alcohols.

STANALTERG 40

A 40% active sodium alkyl aryl sulfonate in powder, flake or bead form for use in the Textile Industry as a wetting, penetrating, level-dyeing and dispersing agent. Can advantageously replace many more expensive textile adjuvants. STANALTERG 40 is also used as a "light-duty" household and industrial detergent.

DODECYLBENZENE SULFONIC ACID (97% Concentration)

Very stable, can be stored indefinitely, providing low cost intermediate for surface active agents. Liquid detergents based thereupon have exceptionally low cloud point. Save shipping expenses and import duties.

STANALONIC AA

A low foaming non-ionic detergent essentially 100% active specifically developed for detergent formulations used in automatic washing machines. Easy to formulate and highly effective at low concentrations.

TECHNICAL ASSISTANCE

Stanalchem Inc. will be happy to furnish technical information regarding the use of their products and to recommend complete equipment for sulfonation, drying, mixing and packaging. You will benefit by writing to:

STANALCHEM INC., 350 MADISON AVENUE, NEW YORK 17, N. Y.

DETERGENTS, SYNTHETIC (Finished), liquid, sudsing (Contd.)

Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 936 W. 38th Pl., Chicago
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Kearny Mfg. Co., Kearny, N. J.
Klenzade Prods., Beloit, Wisc.
Krystall Chem. Co., 2108 N. Southport Ave., Chicago 14
Lever Brothers Co., 390 Park Ave., N. Y. 22
Magna-Krom Prods., 108 Summer Ave., Vandergrift, Pa.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
Maywood Chem. Wks., Maywood, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Moss Soap Co., Pinellas Int'l. Airport, St. Petersburg, Fla.
National Aniline Div., 40 Rector St., N. Y.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Sanitary Products Co., 3944 Olive St., St. Louis
New South Mfg. Co., 711 Bankhead Ave. NW, Atlanta, 18
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Old Empire, Inc., 865 Mt. Prospect Ave., Newark, N. J.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 15
Pilot California Co., 215 W. 7th St., Los Angeles 14
Process Chems. Co., 8733 S. Dice Rd., Los Angeles, Calif.
Procter & Gamble Dist. Co., Cincinnati
Purex Corp., 9300 Rayo Ave., South Gate, Calif.
Puro Co., 2801 Locust St., St. Louis, Mo.
Refined Prods., Inc., 624 Schuyler St., Lyndhurst, N. J.
Reily Chemical Co., P. O. Box 98, New Orleans
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Sanders Chem. Co., 2205 N. American St., Phila. 33
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley, Inc., 642 W. 30th St., N. Y. 1
Stepan Chem. Co., 427 W. Randolph St., Chicago
Surety Laboratories, 3946 Olive St., St. Louis 8
Surfacto Co., Inc., Box 114, Blue Island, Ill.
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010 E. Fletcher St., Phila.
Roy Wilson Mfg. Co., Archer Ave., Chicago 8
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

DETERGENTS, SYNTHETIC (Finished), powder, non-sudsing

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Armour & Co., 1355 W. 31st St., Chicago 9
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Britex Corp., 17 Lewis Wharf, Boston
Chem. Service of Balto., Howard & Wests Sts., Balto.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Essential Chems. Co., 2200 N. 32nd St., Milwaukee 8
Frontier Chem. Products, Inc., 119 E. Soper St., St. Louis 11
Hewitt Soap Co. 333 Linden Ave., Dayton, O.
J. Chem. Corp., 437—11th Ave., N. Y. 18
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Klenzade Prods., Beloit, Mich.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 15
Peerless Chem. Co., 1300-02 N. Fulton Ave., Baltimore
Puro Co., 2801 Locust St., St. Louis, Mo.
Sanders Chem. Co., 2205 N. American St., Phila. 33
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Tesco Chemicals, Inc., Atlanta 5, Ga.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

DETERGENTS, SYNTHETIC (Finished), powder, sudsing

ABC Compounding Co., 1624 Marietta Rd., Atlanta, 1
Armour & Co., 1355 W. 31st St., Chicago 9
Atlantic Refining Co., 260 S. Broad St., Phila.
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Britex Corp., 17 Lewis Wharf, Boston
Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago 8
Chem. Service of Balto., Howard & West Sts., Balto.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Frontier Chem. Prods. Inc., 119 E. Soper St., St. Louis 11
Geigy Industrial Chemicals, Ardsley, N. Y.
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton 3, O.
Hysan Products Co., 936 W. 38th Pl., Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Klenzade Prods., Beloit, Mich.
Lever Brothers Co., 390 Park Ave., N. Y. 22
M. Michel & Co., 90 Broad St., N. Y. 4
Moss Soap Co., Pinellas Int'l. Airport, St. Petersburg, Fla.
National Aniline Div., 40 Rector St., N. Y.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
New South Mfg. Co., 711 Bankhead Ave., NW, Atlanta
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 15
Peerless Chem. Co., 1300-02 N. Fulton Ave., Baltimore
Pilot California Co., 215 W. 7th St., Los Angeles, 14
Procter & Gamble Dist. Co., Cincinnati
Purex Corp., 9300 Rayo Ave., South Gate, Calif.
Puro Co., 2801 Locust St., St. Louis, Mo.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley Co., 642 W. 30th St., N. Y.
Geo. Stearns Chem. Corp., 4200 S. Mendota St., Madison, Wisc.
Surety Laboratories, 3946 Olive St., St. Louis 8
Swift & Co.. Chicago 9
Tesco Chemicals, Atlanta 4, Ga.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Valley Prods. Co., 384 Brooks Ave., Memphis 9, Tenn.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

DETERGENTS, SYNTHETIC (Non-Ionic), acid derivatives

Antara Chems. Div., 435 Hudson St., N. Y. 14
Armour & Co., 1355 31st St., Chicago 9
Atlas Powder Co., Wilmington 99, Dela.
Carlstadt Chem. Co., 430 13th St., Carlstadt, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Hodag Chem. Co., 7247 W. Central Ave., Chicago 45
Krystall Chem. Co., 2108 N. Southport Ave., Chicago 14
Marchon Products, Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Monsanto Chemical Co., St. Louis 24, Mo.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Olin Mathieson Chem. Corp., Joliet, Ill.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 427 W. Randolph St., Chicago
Surfacto Co., Inc., Box 114, Blue Island, Ill.
Treplow Products, 59 Camden St., Paterson, N. J.

DETERGENTS, SYNTHETIC (Non-Ionic), alcohols and thiols

Air Reduction Chem. Co., 150 E. 42nd St., N. Y.
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Armour & Co., 1355 W. 31st St., Chicago
Antara Chems. Div., 435 Hudson St., N. Y. 14
Atlas Powder Co., Wilmington 99, Dela.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Hercules Powder Co., Wilmington, Del.
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Marchon Prods., Ltd., Whitehaven, Cambridge, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City, N. J.

DETERGENTS, SYNTHETIC (Non-ionic), alcohols and thiols (Contd.)

Pennsalt Chems. Corp., 3 Penn Center, Phila.
Rohm & Haas Co., Washington Sq., Phila.
Stanalchem Inc., 350 Madison Ave., N. Y 17
Stepan Chem. Co., 427 W. Randolph St., Chicago
Union Carbide Chem. Co., 30 E. 42nd St., N. Y. 17
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

DETERGENTS, SYNTHETIC (Non-Ionic), phenols, naphthols and alkyl phenols

Antara Chemicals, 435 Hudson St., N. Y.
Atlas Powder Co., Wilmington, Del.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
E. F. Drew Co., 15 E. 26th St., N. Y. 10
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Jefferson Chemical Co., 1121 Walker St., Houston, Tex.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Oil & Chem. Co., 200 Bush St., San Francisco
Pennsalt Chems. Corp., 3 Penn Center, Phila.
Rohm & Haas Co., Washington Sq., Phila.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chemical Co., 427 W. Randolph St., Chicago
Union Carbide Chem. Co., 30 E. 42nd St., N. Y. 17
Witco Chem. Co., 122 E. 42nd St., N. Y. 17
Wyandotte Chem. Corp., Wyandotte, Mich.

DETERGENTS, SYNTHETIC (Non-Ionic), amides and amines

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chems. Div., 435 Hudson St., N. Y. 14
Ardmore Chem. Co., 840 Valley Brook Ave., Lyndhurst, N. J.
Carlstadt Chem. Co., 430 13th St., Carlstadt, N. J.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Fiber Chem. Corp., Matawan, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland
Hodag Chem. Corp., 7247 N. Central Park, Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kearny Mfg. Co., Kearny, N. J.
Knapp Prods., Inc., Lodi, N. J.
Krystall Chem. Co., 2108 N. Southport Ave., Chicago 14
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Nopco Chem. Co., 60 Park Pl., Newark, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Pennsalt Chems. Corp., 3 Penn Center, Phila.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Refined Products, Inc., 624 Schuyler Ave., Lyndhurst, N. J.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 427 W. Randolph St., Chicago
Surfacto Co., Box 114, Blue Island, Ill.
Swift & Co., Chicago 9
Treplow Products, Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
Warwick Chem. Co., 10-10 44th Ave., Long Is. City, N. Y.
Witco Chem. Co., 122 E. 42nd St., N. Y. C.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

DETERGENTS, SYNTHETIC (Non-Ionic), miscellaneous types

Air Reduction Chem. Co., 150 E. 42nd St., N. Y. 17
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Arnold Hoffman & Co., 55 Canal St., Providence, R. I.
Atlas Powder Co., Wilmington 99, Del.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
General Mills, Kankakee, Ill.
Hercules Powder Co., Wilmington, Del.
Hodag Chem. Corp., 7247 N. Central Park Ave., Chicago 45
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Knapp Products, Inc., Lodi, N. J.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chem. Co., 227 Colt St., Irvington, N. J.
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Pennsalt Chems. Corp., 3 Penn Center, Phila. 2
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Rohm & Haas Co., Washington Square, Phila. 5
Royce Chem. Co., Carlton Hill, N. J.
Sandoz, Inc., 61 Van Dam St., N. Y. 13
Pennsalt Chemicals Corp., 3 Penn Center Plaza, Phila. 2
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 427 W. Randolph St., Chicago
Surfacto Co., Inc., Box 114, Blue Island, Ill.
Swift & Co., Chicago
Tanatex Chem. Corp., Belleville Turnpike, Kearny, N. J.
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
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Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
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Witco Chem. Co., 122 E. 42 St., N. Y.
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Eagle-Picher Co., Cincinnati, O.
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Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
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Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
Reasor-Hill Corp., Jacksonville, Ark.
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Shell Chem. Corp., 460 Park Ave., N. Y.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
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International Chemical Co., 3140 S. Canal St., Chicago
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Thompson-Hayward Chemical Co., 2915 SW Blvd., Kansas City, Mo.
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Manion Steel Barrel Co., Rouseville, Pa.
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Nesco, Inc., 270 N. 12th St., Milwaukee 1
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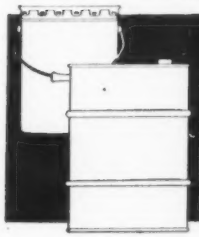


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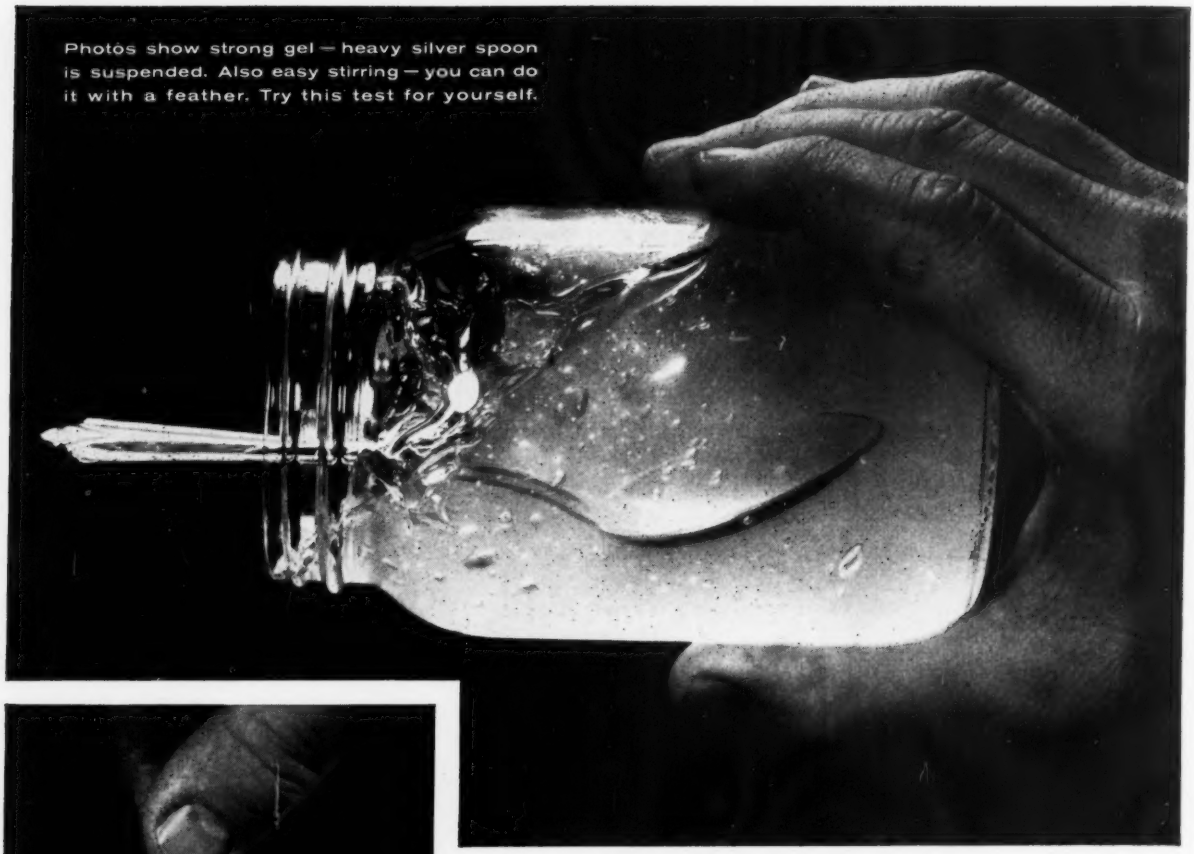
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Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
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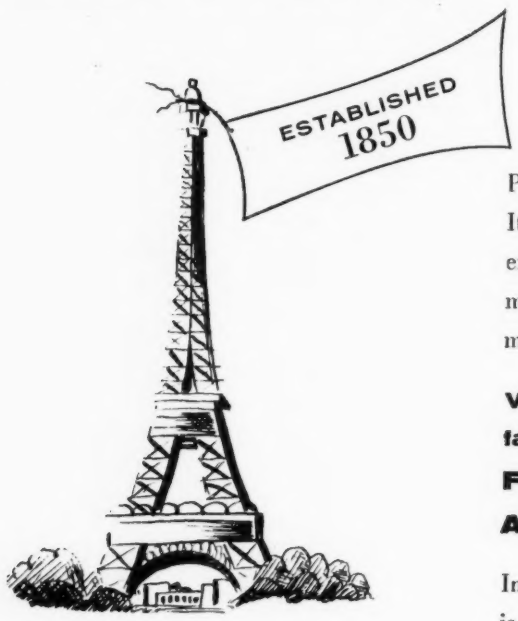
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Robeco Chems. Inc., 25 E. 26st St., N. Y. 10
Southern Sols. & Chems. Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chems. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42 St., N. Y. 17
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit 7
Wisconsin Solvents & Chems. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Sols. & Chems. Co., 2940 Stafford Ave., Grand Rapids

ETHERS

Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
J. T. Baker Chem. Co., Phillipsburg, N. J.
Buffalo Sols. & Chems. Co., Box 73, St. B, Buffalo, N. Y.
Central Solvents & Chem. Co., 2450 W. Flournoy St., Chicago
Dixie Solvents Chems. Co., Dixie Highway, Louisville, Ky.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Enjay Co., 15 W. 51st St., N. Y.
General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Hoosier Solvents & Chems. Corp., 1650 Luett St., Indianapolis
Jefferson Chemical Co., 1121 Walker Ave., Houston, Tex.
Mallinckrodt Chem. Wks., 3600 N. 2nd St., St. Louis
Merck & Co., Rahway, N. J.
Missouri Solvents & Chems. Co., 419 DeSoto, St. Louis
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila.
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Shell Chem. Co., 50 W. 50th St., N. Y.
Southern Sols. & Chems. Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chems. So., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42 St., N. Y. 17
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit 7
Wisconsin Solvents & Chems. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Sols. & Chems. Co., 2940 Stafford Ave., Grand Rapids

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Chemo Puro Mfg. Co., 150 Doremus Ave., Newark, N. J.
Dow Chem. Co., Midland, Mich.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Glyco Products Div., 417 5th Ave., N. Y.
Geigy Industrial Chemicals, Ardsley, N. Y.
Hampshire Chem. Corp., Nashua, N. H.
A. R. Maas Chem. Co., 4570 Ardine St., South Gate, Calif.
Robeco Chems., Inc., 25 E. 26th St., N. Y. 10
Tanatex Chem. Corp., Belleville Turnpike, Kearny, N. J.

ETHYLENE DICHLORIDE

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati
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Boiling Range — ASTM	I.B.P. 165°C min. D.P. 175° max.	— —	— —	— —
Color — APHA	20 max.	40 max.	100 max.	100 max.
Suspended Matter	Substantially Free	Substantially Free	Substantially Free	Substantially Free
Equivalent Weight	61-63	104-106	140-145	147-152
Odor	Mildly ammoniacal	—	Mildly ammoniacal	Mildly ammoniacal
Water	—	0.15 wt. % max.	0.5 wt. % max.	0.5 wt. % max.
MEA Content	—	1.0 wt. % max.	1.5 wt. % max.	—
DEA Content	—	98.50 wt. % min.	15 wt. % max.	—
TEA Content	—	1.0 wt. % max.	85 wt. % min.	98.0 wt. % min.
Iron	—	—	—	0.003 wt. % max.
		*30/20°C		

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Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Southern Sols. & Chems. Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chemicals Co., 8501 Market St., Houston, Tex.
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42 St., N. Y. 17
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wisconsin Sols. & Chems. Corp., 1719 S. 83rd St., Milwaukee, Wisc.
Wolverine Sols. & Chems., 2940 Stafford Ave., SW, Grand Rapids, Mich.
Wyandotte Chemicals Corp., Wyandotte, Mich.

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Antara Chems. Div., 435 Hudson St., N. Y.
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo, N. Y.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Solvents & Chems. Co., Dixie Highway, Louisville, Ky.
Dow Chemical Co., Midland, Mich.
Hoosier Sols. & Chems. Corp., 1650 Luett Ave., Indianapolis, Ind.
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis
Nitrogen Div., 40 Rector St., N. Y.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Robeco Chems. Inc., 25 E. 26st St., N .Y. 10
Southern Sols. & Chems. Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chemicals Co., 8501 Market St., Houston, Tex.
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42 St., N. Y. 17
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee, Wisc.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave., SW, Grand Rapids, Mich.
Wyandotte Chemicals Corp., Wyandotte, Mich.

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Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Nitrogen Div., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Union Carbide Chems. Co., 30 E. 42 St., N. Y. 17
Wyandotte Chemicals Corp., Wyandotte, Mich.

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American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Armour & Co., 1355 W. 31st St., Chicago
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Continental Oil Co., 1270 Ave. of Americas, N .Y. 20
Emery Industries, Inc., Carew Tower, Cincinnati
Oronite Chem. Co., 200 Bush St., San Francisco
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L. Sonneborn Sons, 300—4th Ave., N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

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Armour & Co., 1355 W. 31st St., Chicago
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Baker Castor Oil Co., 40 Ave. A, Bayonne, N. J.
Capital City Prods. Co., 525 W. 1st St., Columbus 16, O.
Celina Stearic Acid Co., Celina, Ohio.
Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3
Darling & Co., 4201 So. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
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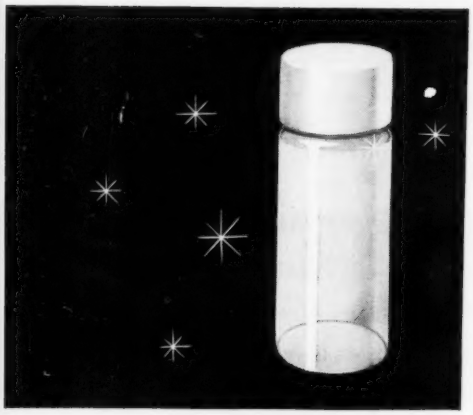
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Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
M. Michel & Co., 90 Broad St., N. Y. 4
National Southern Products, Tuscaloosa, Ala.
Pennotex Oil Corp., 29 Broadway, N. Y. 6
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Theobald Industries, P. O. Box 72, Harrison, N. J.
Trendex Div., P. O. Box 4607, Memphis, Tenn.
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Vegetable Oil Prods., 5568 E. 61 St., Los Angeles
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wilson-Martin Div., Snyder Ave. & Swanson St., Phila.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

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Armour & Co., 1355 W. 31 St., Chicago
Baker Castor Oil Co., 40 Ave. A, Bayonne, N. J.
Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
Darling & Co., 4201 S. Ashland Ave., Chicago 9
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Carew Tower, Cincinnati
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Foster D. Snell, 29 W. 15th St., N. Y. 11
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

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Carlstadt Chemical Co., 430 13th St., Carlstadt, N. J.
Colgate-Palmolive Co., 105 Hudson St., Jersey City, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emery Industries, Carew Tower, Cincinnati 2
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Foremost Food & Chem. Co., El Dorado Div., Oakland, Calif.
Geigy Industrial Chemicals, Ardsley, N. Y.
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
Glyco Prods. Div., 417 5th Ave., N. Y.
Harchem Div., 25 Main St., Bellevelle 9, N. J.
Hodag Chem. Corp., 7247 N. Central Park Ave., Chicago 45
Kamen Soap Prods, Co.. 233 Broadway, N. Y. 7
Kessler Chem. Co., State Rd. & Cottman Ave., Phila. 35
Knapp Prods., Inc., Lodi, N. J.
N. I. Malmstrom & Co., 147 Lombardy St., Bklyn. 12
Marchon Prods., Ltd., Whitehaven, Cumberland, England.
National Aniline Div., 40 Rector St., N. Y.
National Southern Products, Tuscaloosa, Ala.
Quaker Chem. Prods. Co., Conshohocken, Pa.
Robinson, Wagner Co., 628 Waverly Ave., Mamaroneck, N. Y.
Onyx Oil & Chem. Co., Warren & Norris Sts., Jersey City, N. J.
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Sole Chem. Corp., 27 E. Monroe St., Chicago
Swift & Co., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
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Wilson-Martin Div., Snyder & Swanson, Phila.
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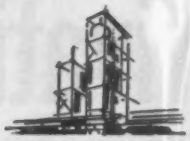
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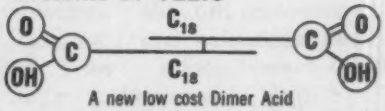
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Harchem Div., 25 Main St., Belleville 9, N. J.
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Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Robinson, Wagner Co., 628 Waverly Ave., Mamaroneck, N. Y.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Woburn Chemical Corp., Harrison, N. J.

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General Mills, Kankakee, Ill.
Harchem Div., 25 Main St., Belleville, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Swift & Co., Hammond, Ind.
Stepan Chemical Co., 427 W. Randolph St., Chicago
Wilson-Martin Div., Snyder Ave. & Swanson St., Phila.
Woburn Chemical Corp., Harrison, N. J.

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Baw Industries, P. D. Box 292, Rossville, Ill.
California Industrial Minerals Co., Friant, Calif.
Carolina Pyrophyllite Co., 10 E. 40th St., N. Y. 16
Chas B. Chrystal Co., 53 Park Pl. N. Y.
Dicalite Div., 612 S. Flower St., Los Angeles, Cal.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
La-Rue-Axtel Pumice Co., Callaway, Nebr.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Pacific Coast Pumice Co., Bishop, Calif.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
Wm. R. Rogers, 72 Park St., Beverly, Mass.
F. E. Schundler & Co., Inc., 524 Railroad St., Joliet, Ill.
Southern Clay Co., Aiken, S. C.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Universal Marble Products, Thornwood, N. Y.
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker Clark & Daniels, 100 Church St., N. Y.

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Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh 4
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
M-R-M- Co., 191 Berry St., Bklyn.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Packer Machinery Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., Quincy 71, Mass.
Stokes & Smith Div., 4915 Summerdale Ave., Philadelphia
Stuyvesant Engineering Co., 107 Stuyvesant Ave., Lyndhurst, N. J.
Triangle Package Machinery Co., 6643 W. Diversey Ave., Chicago
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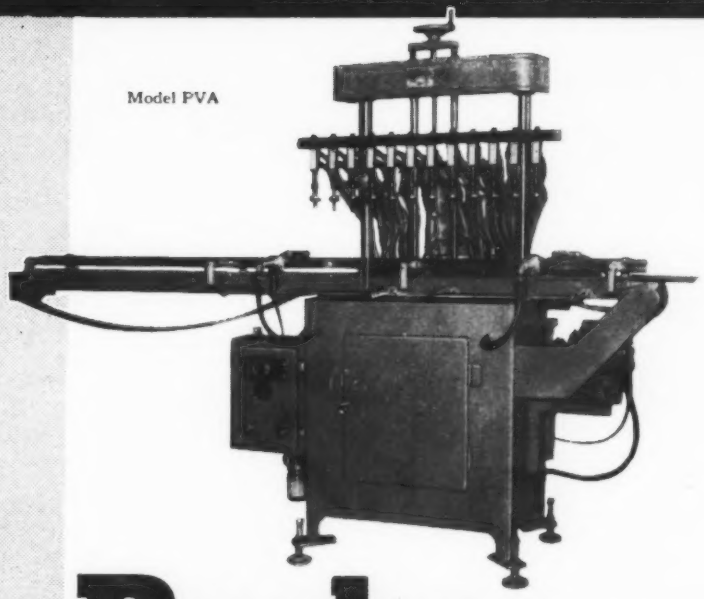
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Bartelt Engineering Co., 1900 Harrison Ave., Rockford, Ill.
Bell-Pak Div., Bell Mach. Co., Oshkosh, Wisc.
Brown Filling Machine Co., Fitchburg, Mass.
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Arthur Colton Co., 3431 E. Lafayette, Detroit
Consolidated Packaging Machy. Corp., 1400 West Ave., Buffalo
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Girdler Process Equipment Div., Louisville, Ky.

NOW... for the SMALL PACKAGER

versatility and automation

with PACKER FILLING MACHINES

Model PVA



Packer's new Model PVA is a fully automatic, straightline filler...So easy to operate that any unskilled person can make the quick changeover from ounces to gallons with only a simple adjustment. A touch of the button starts the entire operation.

Model PVA fills all types of foamy and still liquids and is available in vacuum or gravity operation.

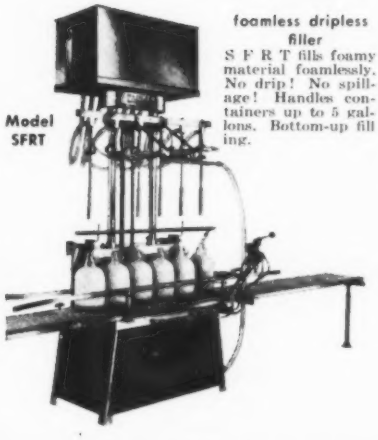
Model PVA operates pneumatically and electrically, utilizing standard stock parts that are available everywhere. There are no complicated gears, cams or starwheels to cause excessive "down-time" or inaccuracy in filling.

PICK A PACKER

Packer

For The Largest — Or The Smallest Filling Job One Of These Versatile Packer Machines Can Meet Your Every Need

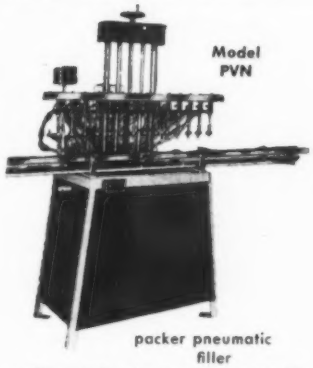
Model SFRT



foamless dripless filler

S F R T fills foamy material foamlessly. No drip! No spillage! Handles containers up to 5 gallons. Bottom-up filling.

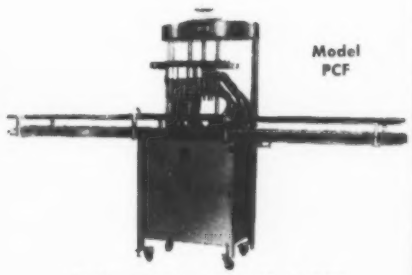
Model PVN



packer pneumatic filler

You get the virtues of automatic filling without the high cost. Model PVN fills fractional ounces to gallons with push-button operation.

Model PCF



Packer and Case Filler, Model PCF. Fills containers inside the carton. Fully adjustable from ½ pint to gallon. For glass, metal and plastic containers. Vacuum, gravity. Has skate wheel conveyor for easy handling of cartons.

Write for free catalog

PACKER MACHINERY CORP.

109 14th Street · Bklyn 15, N. Y. · HY 9-8850

PACKER HAS A MACHINE TO MEET ANY FILLING REQUIREMENT ...OR PACKER WILL DESIGN ONE FOR YOU

fatty alcohols:

n-octyl alcohol / n-decyl alcohol / lauryl alcohol / myristyl alcohol / cetyl alcohol / stearyl alcohol / oleyl alcohol / arachidyl alcohol / behenyl alcohol / mixtures.

fatty alcohol derivatives:

alkyl halides / cetyl bromide / cetyl chloride / cetyl pyridinium bromide / cetyl trimethyl ammonium bromide / ammonium bromide / ammonium lauryl sulfate / triethanolamine lauryl sulfate / sodium cetyl sulfate / oleyl oleate / cetyl palmitate / myristyl myristate / spermaceti / tallow alcohol.

surfactants:

alkyl aryl sulfonates / alkyl napthalene sulfonates / amide sulfates / amine sulfates / fatty acid condensates / quaternary ammonium compounds / sodium cetyl sulfate / sodium dodecylbenzene sulfonate / sodium lauryl sulfate / sodium toluene sulfonate / sodium xylene sulfonate / anionics / cationics / non-ionics / amphoterics.

chemical specialties:

anti-foaming agents / anti-static agents / demulsifiers / detergents / dispersants / dye assistants / emulsifiers / fabric finishes / finishing agents / flotation reagents / lauric acid / lube additives / mold release agents / myristic acid / oleic acid / paper softeners / plasticizers / resin emulsions / synergists / textile processing auxiliaries.

M. Michel and Company, Inc.
MICHEL
90 Broad Street, New York 4

FATTY ALCOHOLS

American Alcolac Corp. 3440 Fairfield Rd., Baltimore
Antara Chemicals Div., 435 Hudson St., N. Y.
Archer-Daniels-Midland Co., Minneapolis
Continental Oil Co., 1270 Ave. of Americas, N. Y.
DeHydag Deutsche Hydrierwerke, Henkelstrasse 67, Dusseldorf, Germany
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harchem Div., 25 Main St., Belleville 9, N. J.
Marchon Prods. Ltd., Whitehaven, Cumberland, England.
M. Michel & Co., 90 Broad St., N. Y. 4
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Robinson, Wagner Co., 628 Waverly Ave., Mamaroneck, N. Y.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Woburn Chemical Corp., Harrison, N. J.

FATTY AMIDES AND AMINES

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31 St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
Emery Industries, Inc., Carew Tower, Cincinnati
General Mills, Kankakee, Ill.
Harchem Div., 25 Main St., Belleville, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Swift & Co., Hammond, Ind.
Stepan Chemical Co., 427 W. Randolph St., Chicago
Wilson-Martin Div., Snyder Ave. & Swanson St., Phila.
Woburn Chemical Corp., Harrison, N. J.

FILLERS (Soap Fillers)

American Colloid Co., 5100 Suffield Ct., Skokie, Ill.
Baw Industries, P. D. Box 292, Rossville, Ill.
California Industrial Minerals Co., Friant, Calif.
Carolina Pyrophyllite Co., 10 E. 40th St., N. Y. 16
Chas B. Chrystal Co., 53 Park Pl. N. Y.
Dicalite Div., 612 S. Flower St., Los Angeles, Cal.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
La-Rue-Axtel Pumice Co., Callaway, Nebr.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Pacific Coast Pumice Co., Bishop, Calif.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
Wm. R. Rogers, 72 Park St., Beverly, Mass.
F. E. Schundler & Co., Inc., 524 Railroad St., Joliet, Ill.
Southern Clay Co., Aiken, S. C.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Universal Marble Products, Thornwood, N. Y.
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker Clark & Daniels, 100 Church St., N. Y.

FILLING MACHINERY (for Liquids in drums, carboys, large cans, etc.)

Aisop Engineering Corp., Milldale, Conn.
Anderson Bros. Mfg. Co., 1907 Kishwaukee St., Rockford, Ill.
Chisholm Ryder Co., Hanover, Pa.
Hope Machine Co., 9400 State Rd., Phila.
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh 4
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
M-R-M- Co., 191 Berry St., Bklyn.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Packer Machinery Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., Quincy 71, Mass.
Stokes & Smith Div., 4915 Summerdale Ave., Philadelphia
Stuyvesant Engineering Co., 107 Stuyvesant Ave., Lyndhurst, N. J.
Triangle Package Machinery Co., 6643 W. Diversey Ave., Chicago
Weigh Right Automatic Scale Co., Mills Rd., Joliet, Ill.

FILLING MACHINERY (for Liquids, in Small Bottles, Cans)

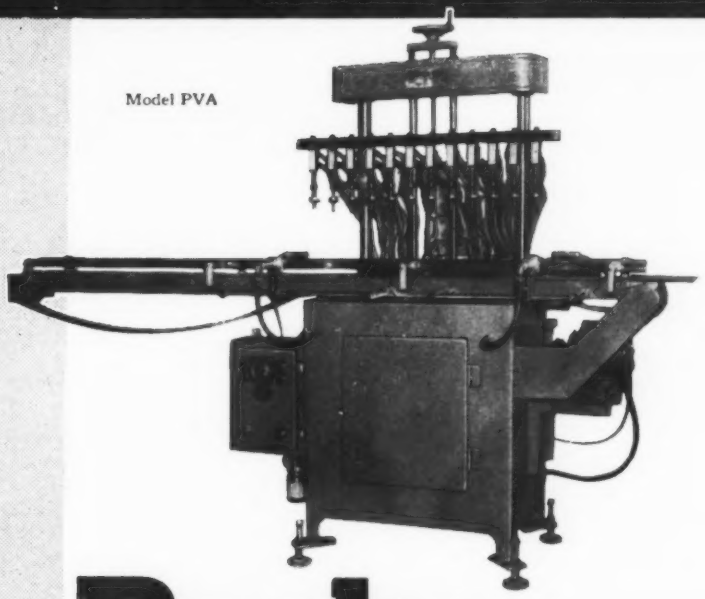
Alsop Engineering Corp., Milldale, Conn.
Bartelt Engineering Co., 1900 Harrison Ave., Rockford, Ill.
Bell-Pak Div., Bell Mach. Co., Oshkosh, Wisc.
Brown Filling Machine Co., Fitchburg, Mass.
F. L. Burt Co., 571 7th St., San Francisco 3
Chisholm Ryder Co., Hanover, Pa.
Arthur Colton Co., 3431 E. Lafayette, Detroit
Consolidated Packaging Machy. Corp., 1400 West Ave., Buffalo
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
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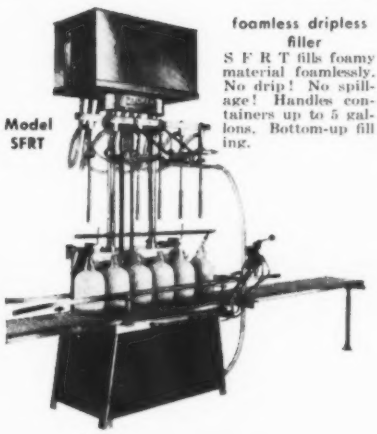
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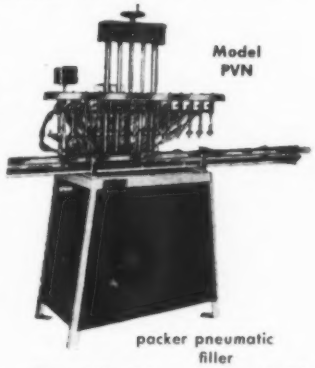
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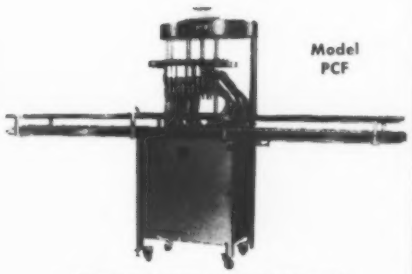
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...OR PACKER WILL DESIGN ONE FOR YOU





FILLING MACHINERY (For Liquids in Small Bottles, Cans) (Contd.)

Hope Machine Co., 9400 State Rd., Phila.
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh 4, Pa.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
G. Diehl Mateer Co., Wayne, Pa.
M. R. M. Co., 191 Berry St., Bklyn.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Packer Machinery Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., Quincy 71, Mass.
Scientific Filter Co., 59 Rose St., N. Y.
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia
Stokes & Smith Div., 4915 Summerdale Ave., Phila. 24
U. S. Bottlers Machy. Co., 4019 N. Rockwell St., Chicago

FILLING MACHINERY (for Chips, Flakes)

Brown Filling Machine Co., Fitchburg, Mass.
Clybourn Machine Corp., 6479 N. Avondale Ave., Chicago 31
Consolidated Packaging Mach. Corp., 1400 West Ave., Buffalo
J. L. Ferguson Co., Joliet, Ill.
B. F. Gump Co., 1338 S. Cicero Ave., Chicago (Bbls. & Bags)
Paul L. Karstrom Co., 1824 W. 74th St., Chicago 36
John R. Nalbach Engineering Co., 6139 Ogden Ave., Chicago
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Packer Machinery Corp., 109 14th St., Bklyn. 15

FILLING MACHINERY (for Paste in cans, drums)

Arenco Mach. Co., 25 W. 43rd St., N. Y. 36
Bell-Pak Div., Bell Mach. Co., Oshkosh, Wisc.
Arthur Colton Co., 3431 E. Lafayette, Detroit
Girdler Process Equipment Div., Louisville, Ky.
Hope Machine Co., 9400 State Rd., Phila. 14
G. Diehl Mateer Co., Wayne, Pa.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati 2
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Perl Mach. Mfg. Co., 68 Jay St., Brooklyn 1
Stokes & Smith Div., 4915 Summerdale Ave., Phila.
Triangle Packaging Machy. Corp., 6643 W. Diversey Ave., Chicago

FILLING MACHINERY (for Pastes in Tubes)

Anderson Bros. Mfg. Co., 1907 Kishwaukee St., Rockford, Ill.
Arenco Mach. Co., 25 W. 43rd St., N. Y. 36
Cass Products Co., 27-31 Mechanic St., Buffalo
Arthur Colton Co., 3431 E. Lafayette Ave., Detroit
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Perl Mach. Mfg. Co., 68 Jay St., Brooklyn 1
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia

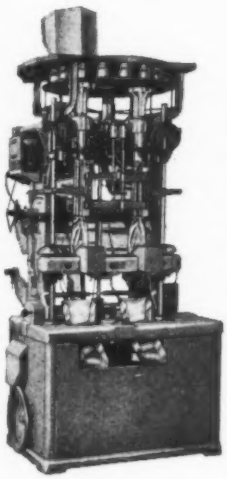
FILLING MACHINERY (for free flowing dry products)

Arenco Machine Co., 25 W. 43rd St., N. Y. 36
Automatic Scale Co., Joliet, Ill.
Bartelt Engineering Co., 1900 Harrison Ave., Rockford, Ill.
Battle Creek Packaging Machines, Inc., Battle Creek, Mich.
Bel-Pak Div., Bell Mach. Co., Oshkosh, Wisc.
Brown Filling Machine Co., Fitchburg, Mass.
Clybourn Machine Corp., 6479 N. Avondale Ave., Chicago 31
Consolidated Package Machy. Corp., 1400 West Ave., Buffalo, N. Y.
Exact Weight Scale Co., 538 E. Town St., Columbus, O.
J. L. Ferguson Co., Joliet, Ill.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Paul L. Karstrom Co., 1824 W. 74th St., Chicago
G. Diehl Mateer Co., Wayne, Pa.
John R. Nalbach Eng. Co., 6139 Ogden Ave., Chicago
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
Sprout, Waldron & Co., Muncy, Pa.
Stokes & Smith Div., 4015 Summerale Ave., Phila.
Stuyvesant Engineering Co., Lyndhurst, N. J.
Triangle Package Machinery Co., 6643 W. Diversey Ave., Chicago
U. S. Automatic Box Machy. Co., Boston 31, Mass.
Weigh Right Automatic Scale Co., Mills Rd., Joliet, Ill.

FILTERS, Clarifying

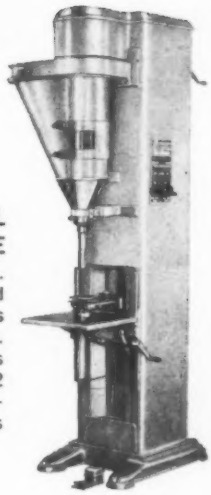
Alsop Engineering Corp., Milldale, Conn.
Ertel Engineering Corp., W. Front St., Kingston, N. Y.

Symbols of Quality In Packaging



STOKESWRAP PACKAGING MACHINE

Forms, fills, heat seals and codes packages of powders, granules, liquids or semi-liquids in printed or unprinted film . . . automatically. Rate: from 40 to 140 packages per minute. Capacity: to 1½ lbs. Maximum package size: 5¼" wide x 12½" long. Automatic feeds: volumetric, auger, counting, net weight or liquid.

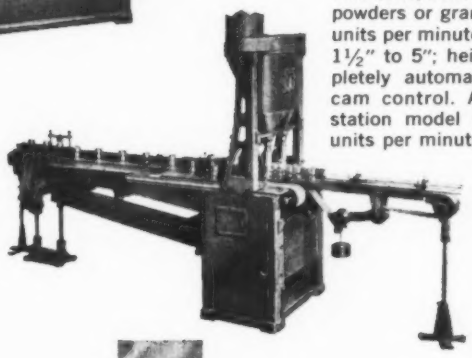


UNIVERSAL FILLING MACHINE

Fills powders, granules or pastes. Filling methods: cam-controlled auger, pressure packing, gross weight or combination auger-vacuum. Handles cans, boxes, jars, envelopes or bags . . . and net weight from 2 gms. to 10 lbs. or more. Semi-automatic operation up to 30 units or more per minute.

AUTOMATIC FILLER

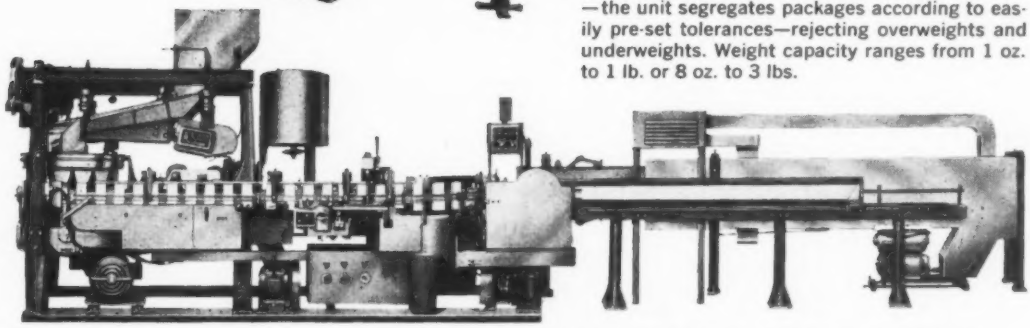
Fills cans, boxes, jars or cartons with powders or granules. Rate: up to 60 units per minute. Adjustability: width 1½" to 5"; height ½" to 8". Completely automatic auger feed with cam control. Also available in 4-station model with speeds of 120 units per minute and up.





CHECKWEIGHING EQUIPMENT

High speed unit checkweighs up to 400 packages per minute detecting variations of as little as plus or minus ½% "on the fly." Fully automatic—the unit segregates packages according to easily pre-set tolerances—rejecting overweights and underweights. Weight capacity ranges from 1 oz. to 1 lb. or 8 oz. to 3 lbs.



NEVERSTOP CARTON FILLING & SEALING MACHINE

With volumetric fill—feeds and fills up to 300 cartons per minute with free-flowing products—sealing both top and bottom in one continuous, fully automatic operation. Also available with vibrametric fill—to fill and seal up to 450 cartons per minute. Six models available for a wide range of carton sizes and filling speeds.

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

FMC Packaging Machinery Division

Stokes & Smith Plant

4972 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.



BASIC RAW MATERIALS

Resins, Polymers and Waxes

FINISHED PRODUCTS

Seals and Finishes, Wax and Resin Emulsions,
Cleaners and Related Products

RELIABILITY . . .

EXPERIENCE ▶ ▶ ▶ ▶ ▶ ▶ "Better Products Through Research" for nearly three-quarters of a century.

BASIC IN RAW MATERIALS ▶ ▶ Washburn is a basic manufacturer of RESINS, POLYMERS, WETTING AGENTS, HARD WAXES, and other chemical needs. Thus the best raw materials are tailor-made and controlled to insure superior properties in finished products.

PRIVATE BRAND SPECIALISTS ▶ This raw material "know-how" or control is a major factor in supplying the exacting requirements of private brand Janitorial and Sanitary Supply Distributors.

RAW MATERIALS SUPPLIER ▶ ▶ Manufacturers, too, rely on Washburn's technological advances and leadership for many materials.

TECHNICAL SALESMEN ▶ ▶ ▶ Washburn's own technically trained salesmen service customers regularly.

SKILLED ASSISTANCE IN MERCHANDISING ▶ ▶ ▶ ▶ A helpful merchandising staff serves customers in many ways . . . to simplify private label tasks . . . to dramatize containers in "Decorama Styling" . . . and to assist customers in other selling endeavors.

RELY ON WASHBURN FOR GREATER PROFITS, GREATER PERFORMANCE AND USER SATISFACTION IN FLOOR FINISHING AND MAINTENANCE PRODUCTS!

T. F. WASHBURN COMPANY

General Offices: 2244 Elston Avenue • Chicago 14, Illinois • ALbany 2-0600

NEWARK:	Lehigh Wholesale & Transportation Co., 98 Frelinghuysen Avenue	BIglow 3-7200
ATLANTA:	Southern Bonded Warehouse, 367 John Street N.W.	JAckson 4-3421
DALLAS:	Zanes-Ewalt Warehouse, 209 North Hawkins Street	RIverside 1-9627
LOS ANGELES:	Pacific Commercial Warehouse, 923 East Third Street	TRinity 8282
SAN FRANCISCO:	San Francisco Warehouse Co., 605-647 Third Street	SUtter 1-3461
SEATTLE:	Dray-King Warehouse, 4700 Denver Avenue	MOhawk 4700

FILTERS, CLARIFYING (Contd.)

Filpaco Industries, 2464 S. Michigan Ave., Chicago
Hercules Filter Corp., 175 Ethel Ave., Hawthorne, N. J.
Karl Kiefer Machy. Co., 923 Martin St., Cincinnati
Scientific Filter Co., 59 Rose St., N. Y.

FILTER AIDS

Alsop Engineering Corp., Milldale, Conn.
American Colloid Co., 5100 Suffield Ct., Skokie, Ill.
Dicalite Div., 612 S. Flower St., Los Angeles
Eagle-Picher Co., Cincinnati 1
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Hercules Filter Corp., 175 Ethel Ave., Hawthorne, N. J
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Johns-Manville Prods. Corp., 22 East 40th St., N. Y.
Peerless Clay & Mineral Co., Pueblo, Colo.
Westvaco Chem. Div., 161 E. 42nd St., N. Y. 17
Whittaker, Clark & Daniels, 100 Church St., N. Y.

FILTER PRESSES

Alsop Eng. Corp., Milldale, Conn.
Bart-Messing Corp., 229 Main St., Belleville, N. J.
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Hercules Filter Corp., 175 Ethel Ave., Hawthorne, N. J.
F. R. Hormann & Co., 17 Stone St., Newark, N. J.
Karl Kiefer Machy. Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Scientific Filter Co., 59 Rose St., N. Y.
T. Shriver & Co., Harrison, N. J.
Sparkler Mfg. Co., 201 Lake St., Munderlein, Ill.
D. R. Sperry & Co., Batavia, Ill.
United Filter Corp., Hazelton, Pa.

FITER SHEETS, Asbestos

Alsop Engineering Corp., Milldale, Conn.
Ertel Engineering Corp., West Front St., Kingston, N. Y.
Hercules Filter Corp., 175 Ethel Ave., Hawthorne, N. J.
F. R. Hormann & Co., 17 Stone St., Newark, N. J.
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.

FIRE EXTINGUISHER FLUID

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Chemical Service of Baltimore, Howard & West Sts., Balto. 30
Diamond Alkali Co., Union Commerce Bldg., Cleveland
James Good Co., 2107 E. Susquehanna Ave., Philadelphia
R. M. Hollingshead Corp., 840 Cooper St., Camden, N. J.
Michigan Chemical Corp., St. Louis, Mich.
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chemical Co., 575 W. 131st St., New York
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.

FIRE-PROOFING COMPOUNDS

Antara Chemicals Div., 435 Hudson St., N. Y. 14
Atlantic Refining Co., 260 S. Broad St., Phila.
Chem. Service of Balto., Howard & West Sts., Balto. 30
Chicago Sanitary Prods., Co., 3100 S. Throop St., Chicago
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Industrial Chemicals, Ardsley, N. Y.
Glyco Prods. Div., 417 5th Ave., N. Y. 1
Hooker Chem. Corp., Union St., Niagara Falls, N. Y.
Hysan Products Co., 932 W. 38th Pl., Chicago
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
Metal & Thermit Corp., Rahway, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Niacet Chemicals Corp., Niagara Falls, N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2, N. J.
Theobald Industries, P. O. Box 72, Harrison N. J.
Victor Chemical Works, 155 N. Wacker Dr., Chicago

FISH OILS

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 31st St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Murray Oil Products Co., 21 West St., N. Y.
Pacific Vegetable Oil Co., 1145 S. 10th St., Richmond, Calif.
J. H. Redding, Inc., 17 Battery Place, N. Y.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Vegetable Oil Prods., 5568 E. 61st St., Los Angeles
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

FISH OIL SOAPS

Chicago Sanitary Prods., Co., 3100 S. Throop St., Chicago
James Good, Inc., 2107 Susquehanna Ave., Phila.
R. M. Hollingshead Corp., 840 Cooper St., Camden, N. J.
North Coast Chem. & Soap Works, Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.

FLOATING SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Hewitt Soap Co., 333 Linden Ave., Dayton, Ohio
Kamen Soap Prods., Co., 233 Broadway, N. Y. 7
Lever Bros. Co., 390 Park Ave., N. Y.
Lightfoot Co., 380 Madison Ave., N. Y.
Mem Co., 67 Irving Pl., N. Y. 3
Procter & Gamble Distributing Co., Cincinnati
Schmidt Soap Prods Co., 236 W. North Ave., Chicago
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago

FLOOR FINISHES (Non-Wax)

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Baird & McGuire, Holbrook, Mass.
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Butcher Polish Co., 183 Commercial St., Malden, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Davies-Young Soap Co., Dayton, O.
Dura Wax Co., McHenry, Ill.
Eagle Soap Co., Huntington, Ind.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Division, S. Ashland Ave., at 29th St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila.
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good Co., 2107 E. Susquehanna Ave., Philadelphia
Haag Labs, 14000 S. Seeley Ave., Blue Island, Ill.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Magee Chem. Co., 325 Main St., Bensenville, Ill.
Masury Young Co., 76 Roland St., Boston 29
Midland Labs., Dubuque, Iowa
Oil Specialties & Refining Co., 18 Bridge St., Bklyn
Old Empire, Inc., Mt. Pros. & Verona, Newark, N. J.
Peck's Products Co., 610 E. Clarence Ave., St. Louis
Puro Co., 2801 Locust St., St. Louis 3
Sanders Chem. Co., 2205 N. American St., Phila. 33
Simoniz Co., 2100 Indiana Ave., Chicago 16
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Uncle Sam Chemical Co., 575 W. 131st St., New York
U. S. Sanitary Spec. Corp., 1001 S. Calif., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
T. F. Washburn Co., 2244 Elston Ave., Chicago
Windsor Wax Co., 611 Newark St., Hoboken, N. J.

FLOOR SCRUB SOAPS (see Potash Soaps)

FLOOR WAX APPLICATORS (see Applicators)

FLOOR WAXES

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Baird & McGuire, Inc., Holbrook, Mass.
Betco Corp., 830 Elysian Ave., Toledo 7
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Buckingham Wax Corp., Van Dam St. & Borden Ave., L. I. City, N. Y.
Butcher Polish Co., 183 Commercial St., Malden, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Cato Chemical Co., 116 S. York St., Elmhurst, Ill.
Chemical Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods., Co., 3100 S. Throop St., Chicago
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Davies-Young Soap Co., Dayton, O.
Dura Wax Co., McHenry, Ill.
Eagle Soap Co., Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Division, S. Ashland Ave., at 29th St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila.
Frontier Chem. Prods., 119 E. Soper St., St. Louis
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
Haag Laboratories, Inc., 14000 Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
S. C. Johnson & Son, 1525 Howe St., Racine, Wisc.
Klix Chemical Co., 551 Railroad Ave., S. San Francisco
Magee Chem. Co., 325 W. Main St., Bensenville, Ill.
National Chem. Laboratories, 825 Lombard St., Phila.
Majestic Wax Co., 2139 Blake St., Denver, Colo.
Midland Labs., Dubuque, Iowa
M. & H. Laboratories, 2703 Archer Ave., Chicago
Masury Young Co., 76 Roland St., Boston 29
National Laboratories, Inc., 4934 Lewis Ave., Toledo, O.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
New South Mfg. Co., 711 W. Bankhead Ave. NW, Atlanta
Oil Specialties & Refining Co., 18 Bridge St., Bklyn.
Peck's Prods., 610 E. Clarence Ave., St. Louis
Pennsylvania Refining Co., Butler, Pa.
Perrow Chemical Co., Hurt, Va.
Piatt & Smillie Chems., 2322 Olive, St. Louis 3
Puro Co., 2801 Locust St., St. Louis 3
Reily Chemical Co., Industrial Prods. Div., P.O. Box 98, New Orleans, La.
Sanders Chem. Co., 2205 N. American St., Phila. 33
I. Schneid, Inc., 765 Talbert Ave., Atlanta, Ga.
Simoniz Co., 2100 Indiana Ave., Chicago 16
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
John C. Stalfort & Sons, 319 W. Pratt St., Baltimore
John T. Stanley Co., 642 W. 30th St., N. Y.
H. F. Staples Co., Medford, Mass.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chemical Co., 575 W. 131st St., New York
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
T. F. Washburn Co., 2244 Elston Ave., Chicago
Windor Wax Co., Inc., 611 Newark St., Hoboken, N. J.
Wyandotte Chemicals Corp., Wyandotte, Mich.

FLOOR WAXES, Germicidal

Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Chemical Service of Baltimore, Howard & West Sts., Baltimore
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Fuld Bros., 702 S. Wolfe St., Baltimore 31
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Trio Chemical Works., Inc., 341 Scholes St., Brooklyn
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
T. F. Washburn Co., 2244 Elston Ave., Chicago
Windsor Wax Co., 611 Newark St., Hoboken, N. J.

FLOOR WAXES, Insecticidal

Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Franklin Research Co., 5124 Lancaster Ave., Phila.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Veneer-O-Wax Corp., 2010-12 Fletcher St., Phila. 25
T. F. Washburn Co., 2244 Elston Ave., Chicago
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For private brand resale buyers of waxes and kindred products

...Your Quality Guide

WATER EMULSION WAXES

Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

CANDY'S SUPREME (standard)
BRIGHT BEAUTY®
CANDY'S SUPREME Special WR
SUPER CAND-DOX®
CAND-DOX® #CS
CANDI-WAX #6000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

Beauty and Durability

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

Anti-Slip

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax...beauty and protection.

Water Resistance

Frequent damp mopping or wet traffic can make water resistance very important. Over-doing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

Solid Content

The percentage of solid content is not nearly as important as the **quality** of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

Carnauba Wax

The most important features of a good wax...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

Other HIGHEST QUALITY products of CANDY & COMPANY, Inc.

CANDI-COAT 1000, WATER RESIN EMULSION
As a floor coating for use under specific conditions of continued maintenance on certain types of floors this water resin emulsion has none of the faults associated with coatings of this type. It is the finest product in its class produced up to this time.

Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER
For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

Bright Beauty CREAM FURNITURE POLISH
A cream furniture polish that spreads easily, polishes without excessive effort to a deep impressive lustre. Permits *repeated repolishing* with a dry cloth, thus saving many re-applications. A very economical polish of the very highest quality.

Bright Beauty PASTE WAX
Properly blended and refined from excellent quality solids and solvents that produce the best drying time and evaporation. Easy to handle, having "creamy" consistency and stability that lasts throughout storage and usage life.

Bright Beauty LIQUID (spirit) PREPARED WAXES
A complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each acts as a "dry cleaner" to keep surfaces waxed protected with a superb coating necessary for many applications such as wood and certain other types of floors; for bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH
As a glass cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanliness to glass. As a cleaner of silver, it polishes to a high lustre *without* abrasion and can even correct the abuses of scratchy "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX
Does not "ball-up" and gather dirt that impregnates floors with hard spots difficult to remove...free from dusty effects. Its protective quality adds more "floor-years" to expensive ballroom floors.

Bright Beauty Heavy Duty PASTE CLEANER
Cleans and scours more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive qualities, it frees almost every surface from all foreign matter.

CONTAINER SILK SCREEN LABELING
Now you can have dramatic, colorful labeling of your private brand name on all 55, 35, 30, 20 & 15 *gal.* drums and 5 *gal.* pails. This added service is accomplished right in our plant...your inspection invited...or write for details.

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Consumer Acceptance: More consumers buy G-11 – Hexachlorophene – soaps than any other deodorant bar. Hexachlorophene is known to millions of people.

Soap Compatibility and Stability: G-11 is effective in *all* types – bar, powder, and liquid soaps and detergents. It is also non-corrosive, alkali stable, effective at all pH's.

Non-Irritation of the Skin: Established by its use in billions of cakes of soap and millions of units of cosmetic and pharmaceutical products such as lotions, oils, powders and ointments for babies as well as adults.

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Availability: Immediate shipment of truck or carload quantities from stock. Available around the world.

Technical Service: Sindar discovered hexachlorophene, holds the patents, pioneered its use in antiseptic and deodorant soaps, and is ready to assist you with your technical problems and to supply data on its varied applications.

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California Spray-Chemical Corp., Richmond, Calif.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 97th St., Cleveland
Merck & Co., Rahway, N. J.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Pennsalt Chems. Corp., 3 Penn Center, Phila. ,
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Stauffer Chem. Co., 380 Madison Ave., N. Y. 17
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

FLYPAPER and RIBBONS

Aeroxon Sales Co., 9 E. 38th St. N. Y.
Fly-Cord, Inc., Box 2006, Savannah, Ga.
Tanglefoot Co., 314 Straight Ave., S.W., Grand Rapids, Mich.
R. E. Tongue & Bro., Allegheny and Amber Sts., Phila.

FLY SPRAYS (see Insecticides, Household and Industrial)

FOAM STABILIZERS

Antara Chemicals, Div., 435 Hudson St., N. Y. 14
Ardmore Chem. Co., 840 Valley Brook Ave., Lyndhurst, N. J.
Atlas Powder Co., Wilmington, Del.
Borden Co., 350 Madison Ave., N. Y.
Glyco Products, 417 5th Ave., N. Y.
Hercules Powder Co., Wilmington, Del.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
M. Michel & Co., 90 Broad St., N. Y. C.
Metal & Thermit Corp., Rahway, N. J.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2, N. J.
Refined Prods. Corp., 624 Schuyler Ave., Lyndhurst, N. J.
Silicones Div., Union Carbide Corp., 30 E. 42nd St., N. Y. 17
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stepan Chem. Co., 427 W. Randolph St., Chicago
Swift & Co., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17

FOAMING AGENTS (see Detergents, Synthetic; also Surface Active Agents)

FOGGING EQUIPMENT (See Sprayers, Fogging)

FOIL, Plain Metal

Aluminum Co. of America, Pittsburgh, Pa.
Cochran Foil Co., Louisville, Ky.
Johnson Foil Mfg. Co., South Broadway, St. Louis 11
Kaiser Aluminum & Chem. Sales, Oakland, Calif.
Republic Foil & Metal Mills, Danbury, Conn.
Reynolds Metals Co., Richmond, Va.
Stanahan Foil Co., Hackensack, N. J.

FOIL, Printed and Decorated

Continental Can Co., 100 E. 42nd St., N. Y. 17
Crown Zellerbach Corp., San Leandro, Calif.
Lachman-Novasel Paper Corp., 109 Greene St., N. Y.
Marathon Corp., Menasha, Wisc.
Milprint, Inc., Milwaukee 1, Wisc.
Reynolds Metals Co., Richmond, Va.
Western Foil Co., 3010 38th Ave., Seattle, Wash.

FORMALDEHYDE (see also Brokers and Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Celanese Corp. of America, 180 Madison Ave., N. Y.
Cliffs-Dow Chem. Co., Marquette, Mich.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., Wilmington
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Mallinckrodt Chemical Work, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Nitrogen Div., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Reichhold Chemicals, Inc., White Plains, N. Y.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Solvay Process Div., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.

FORMULATIONS, Private Brand (see listings under individual headings)

FRAMES (see Soap Frames)

"FREON" (Fluorinated Hydrocarbon Propellants)

E. I. du Pont de Nemours & Co., Wilmington, Del.

FULLERS EARTH

Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Minerals & Chemicals Corp. of America, Menlo Park, N. J.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Tamms Industries, Inc., 228 N. La Salle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Whittaker, Clark & Daniels, 100 Church St., N. Y.

FUMIGANTS, SOIL (see Soil Fumigants)

FUMIGANTS (Cyanides, Chlorpicrin, Methyl Bromide, etc)

American-British Chem. Supplies, 180 Madison Ave., N. Y.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles, Calif.
Calif. Spray-Chemical Corp., Richmond, Calif.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Agricultural Chemicals, Ardsley, N. Y.
Kolker Chem. Corp., 600 Doremus Ave., Newark 5
Larvacide Products Co., 117 Liberty St., N. Y.
Michigan Chem. Corp., St. Louis, Mich.
Monsanto Chemical Co., St. Louis 24, Mo.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Philadelphia
Shell Chem. Corp., 50 W. 50th St., N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

"GENETRON," (Fluorinated Hydrocarbon Propellants)

General Chemical Div., 40 Rector St., N. Y.

GERANIOL (see Aromatic Chemicals)

GERANIUM OIL (see Essential Oils)

GERANYL ACETATE (see Aromatic Chemicals)

GERMICIDES (for Soap, Etc.)

Alco Oil & Chem. Corp., Trenton Ave. and William St., Phila.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals Div., 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago
Chemo Puro Mfg. Corp., 150 Doremus Ave., Newark, N. J.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fleetwood Prods. Co., 509 5th Ave., N. Y.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Metal & Thermit Corp., Rahway, N. J.
Monsanto Chemical Co., St. Louis 4
Olin Mathieson Chem. Corp., Baltimore 3
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2, N. J.
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
Pennsalt Chems. Corp., 3 Penn Center, Phila.
Sindar Corp., 321 W. 44th St., N. Y.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
R. T. Vanderbilt Co., 230 Park Ave., N. Y. 17
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17
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EXHIBIT D

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THE VERDICT

The verdict is unanimous—Pfizer Gluconic Acid and Sodium Gluconate assure you of compounds with the highest cleaning and etching efficiency. Write Pfizer for complete technical data and information on the proper Gluconate use levels.

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Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Baird & McGuire, Inc., Holbrook, Mass.
Chemical Service of Baltimore, Howard & West Sts., Balto. 30
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Davies-Young Soap Co., Dayton 1, O.
Drackett Co., 5020 Spring Grove, Cincinnati 22
Eagle Soap Co., Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Fitzpatrick Bros., 1300 W. 32 Pl., Chicago 8
Franklin Research Co., 5134 Lancaster Ave., Phila. 31
Frontier Chem. Prods., 119 E. Soper St., St. Louis
Fluid Chem. Co., 878 Mt. Prospect Ave., Newark, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Gate Polish Mfg. Co., 400 E. 10th St., N. Kansas City, Mo.
Haag Laboratories, 140th St. & Seeley Ave., Blue Island, Ill.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Masury Young Co., 76 Roland St., Boston 29
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Ia.
New South Mfg. Co., 711 Bankhead Ave., NW, Atlanta
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Puro Co., 2801 Locust St., St. Louis 3
John T. Stanley Co., 642 W. 30th St., N. Y.
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kansas City 8, Mo.
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chemical Co., 575 W. 131st St., New York
U. S. Sanitary Spec. Corp., 1001 S. California Ave., Chicago 12
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010-12 Fletcher St., Phila.

GLUCONIC ACID

Dawe's Laboratories, 4800 S. Richmond St., Chicago 32
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 20
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6

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Acme-Hardesty Co., 60 E. 42nd St., N. Y. C
Armour & Co., 1355 W. 31 St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y.
Dow Chem. Co., Midland, Mich.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
A. Gross & Co., 295 Madison Ave., N. Y.
Harchem Div., Box 178, Newark, N. J.
Lever Bros. Co., 390 Park Ave., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
Procter & Gamble Distributing Co., Cincinnati
Purex Corp., 9300 Rayo Ave., South Gate, Calif.
Reichhold Chemicals, Inc., White Plains, N. Y.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Shell Chemical Corp., 50 W. 50th St., N. Y. 18
Swift & Co., Hammond, Ind.
Vegetable Oil Prods., 5568 E. 61 St., Los Angeles

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Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

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Atlas Powder Co., Wilmington 99, Dela.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Foremost Food & Chem. Co., Oakland, Calif.
Emery Industries, Inc., Carew Tower, Cincinnati
Glyco Products Div., 417 5th Ave., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 20
Hodag Chem. Corp., 7247 N. Central Park Ave., Chicago 45
Knapp Prods., Inc., Lodi, N. J.
Marchon Prods. Ltd., Whitehaven, Cumberland, Eng.
Nopco Chemical Co., 60 Park Pl., Newark 1, N. J.
Northwestern Chem. Co., 120 N. Aurora, W. Chicago
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stepan Chem. Co., 427 W. Randolph St., Chicago



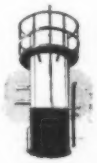
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Van Dyk & Co., Belleville, N. J.
Wilson-Martin, Div. Snyder & Swanson, Phila.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

GLYCOLS

Air Reduction Chem. Co., 150 E. 42nd St., N. Y.
Amsco Solvents & Chemicals Co., 4619 Reading Rd., Cincinnati
Antara Chemicals, Div., 435 Hudson St., N. Y. 14
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo, N. Y.
Central Sols. & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Solvents & Chems. Co., Dixie Highway at Appleton, Louisville, Ky.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastman Chem. Prods., Kingsport, Tenn.
General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Glycol Products Div., 417 5th Ave., N. Y.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis, Ind.
Jefferson Chemical Co., 1121 Walker Ave., Houston, Tex.
Missouri Solvents & Chemicals Co., 410 De Soto Ave., St. Louis
Nitrogen Div., 40 Rector St., N. Y.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Shell Chemical Corp., 50 W. 50th St., N. Y.
Southern Solv. & Chem. Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chemicals Co., 8501 Market St., Houston, Tex.
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Van Dyk & Co., 11 Williams St., Belleville, N. J.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solv. & Chem. Co., 2940 Stafford Ave., S.W., Grand Rapids
Wyandotte Chemicals Corp., Wyandotte, Mich.

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Baird & McGuire, Inc., Holbrook, Mass.
Chase Prods. Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chemical Service of Balto., Howard & West Sts., Balto.
Continental Filling Corp., 123 N. Hazel St., Danville, Ill.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 936 W. 38th Place, Chicago
Orb Industries, Wallingford Rd., Media, Pa.
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Puro Co., 2801 Locust St., St. Louis 3
Sprayway, Inc., 7638 Vincennes Ave., Chicago 20
James Varley & Sons, 1200 Switzer Ave., St. Louis

GREASE ABSORBENTS (for floors, etc.)

Atlantic Refining Co., 260 S. Broad St., Phila.
Chemical Service Co. of Baltimore, Howard & West Sts., Balto.
Chas. B. Chrystal Co., 53 Park Pl., N. Y. 7
Diamond Head Oil Ref. Co., 1401 Harrison Tpke., Kearny, N. J.
Dri-Rite Co., 100 W. Chicago Ave., Chicago 10
R. M. Hollingshead Corp., Camden, N. J.
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
Frank Miller & Sons, 2250 W. 58th St., Chicago
Minerals & Chemicals Corp. of America, Menlo Park, N. J.
Oil-Dri Corp., 520 N. Michigan Ave., Chicago 11
S. & S. Soap Co., 815 E. 135 St., N. Y. 54
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
Uncle Sam Chemical Co., 573 W. 131st St., New York
Waverly Petroleum Prods. Co., 1724 Chestnut St., Philadelphia
Wyandotte Chemicals Corp., Wyandotte, Mich.

GRINDING MACHINERY (for milling, pulverizing, etc.)

American Pulverizing Co., 18th & Austin Sts., St. Louis
J. H. Day Co., Cincinnati 12
Gruendler Patent Crusher & Pulverizer Co., 900 N. First St., St. Louis
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Houchin Machy. Co., Hawthorne, N. J.
Kent Machine Works, 39 Gold St., Brooklyn
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pulverizing Machinery Div., Chatham Rd., Summit, N. J.
Rapids Machinery Co., Marion, Iowa

Raymond Pulverizing Div., 1314 N. Branch St., Chicago
Chas. Ross & Sons, 148 Classon Ave., Brooklyn
Henry Simon Ltd., Cheadle Heath, Stockport, England
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Dorchester, Boston 22
Troy Engine & Mach. Co., Troy, Pa.
U. S. Stoneware Co., Akron 9, O.
Williams Patent Crusher & Pulverizer Co., 2700 N. 9th St., St. Louis
Young Machy. Co., Muncy, Pa.

GUMS (oil, spirit soluble; varnish gums) Copal, Congo, Manila, Dammar, etc.)

Archer-Daniels-Midland Co., Minneapolis 2
Wm. Diehl & Co., 114 E. 56th St., N. Y. C.
Gillespie-Rogers-Pyatt Co., 75 West St., N. Y. 16
O. G. Innes Corp., 10 E. 40th St., N. Y. 16
Meer Corp., 318 W. 46th St., N. Y. 36
Thurston & Braidich, 286 Spring St., N. Y. 13
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Wm. H. Scheel, Inc., 38 Franklin St., Bklyn. 22
Velsicol Chem. Corp., 330 E. Grand Ave., Chicago

GUMS (Water soluble) Arabic, Karaya, Tragacanth, etc.

Alco Oil & Chem. Corp., Trenton Ave. & Williams St., Phila.
Dodwell & Co., 120 Wall St., N. Y. 5
Paul A. Dunkel & Co., 26 Journal Sq., Jersey City, N. J.
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland 15
Hercules Powder Co., Wilmington
Meer Corp., 318 W. 46thSt., N. Y. 36
National Starch Prods., Inc., 750 3rd Ave., N. Y. 17
Neumann-Buslee & Wolfe, 5800 Northwest Hgwy., Chicago
Orbis Products Corp., 601 W. 26th St., N. Y. 1
F. H. Paul & Stein Bros., Inc., 235 Fifth Ave., N. Y.
S. B. Penick & Co., 100 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Seaplant Chem. Corp., 63 David St., New Bedford, Mass.
Thompson-Hayward Chems. Co., 2915 SW Blvd., Kansas City 8
Thurston & Braidich, 286 Spring St., N. Y. 13
Tragacanth Importing Corp., 160 Water St., N. Y. 38

GYM-FINISH FLOOR SEAL (see Sealers, Floor)

HAND CLEANERS (Powdered, Waterless, etc.)

ABC Compounding Co., 1624 Marietta Rd., Atlanta 1
Amaza Laboratories, Macedonia, O.
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Capital Soap Corp., 310 Colfax Ave., Clifton, N. J.
Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago 8
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Continental Chemical Co., 195 21st Ave., Paterson, N. J.
Dameron Enterprises, 427 S. 20th St., Louisville, Ky.
Davies-Young Soap Co., Dayton 1, O.
DL Products, Inc., 51 E. Market St., Buffalo 4, N. Y.
Essential Chems. Co., 5906 N. Port Washington Ave., Milwaukee
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Prods. Co., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore 3
Haag Laboratories, 14000 Seeley Ave., Blue Island, Ill.
Hammons Prods. Inc., 1141 Wildwood Ave., Ft. Wayne, Ind.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
Highland Laboratories, Kearny, N. J.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Kutol Products Co., 2817 Highland Ave., Cincinnati
Lightfoot Co., 380 Madison Ave., N. Y. C.
Mione Manufacturing Co., Collingdale, Pa.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Old Empire, Inc., Mt. Prospect & Verona, Newark, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2, N. J.
G H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Products Co., 610 E. Clarence Ave., St. Louis 15
Quickee Prods., Inc., Box 312, Yonkers, N. Y.
S & E Chem. Co., 1751 N. Harding Ave., Chicago
Sanders Chem. Co., 2205 N. American St., Phila. 33
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Sugar Beet Prods. Co., Saginaw, Mich.
Surety Laboratories, 3946 Olive St., St. Louis 8
Theobald Industries, P. O. Box 72, Harrison, N. J.
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Trio Chemical Wks., 341 Scholes St., Brooklyn 6



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Warsaw Chem. Co., Warsaw, Ind.

HAND CREAMS, (Protective)

Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Davies Young Soap Co., Dayton, O.
DL Products, Inc., 51 E. Market St., Buffalo 4, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Hammons Prods., Inc., 1141 W. Wildwood Ave., Ft. Wayne, Ind.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Pl., Chicago
Kutol Prods. Co., 2817 Highland Ave., Cincinnati
Old Empire, Inc., Mt. Prospect & Verona, Newark, N. J.
Quickee Prods., Inc., 141 Woodworth Ave., Yonkers, N. Y.
L. Sonneborn Sons., 300 4th Ave., N. Y. 10
S & E Chem. Co., 1751 N. Harding Ave., Chicago
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Utility Co., 636 W. 44th St., N. Y. 36

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Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago 8
Clifton Chem. Co., 150 Nassau St., New York
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Dameron Enterprises, 427 S. 20th St., Louisville, Ky.
Davies Young Soap Co., Dayton
DL Products, Inc., 51 E. Market St., Buffalo, N. Y.
Eagle Soap Co., Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
Hammons Products, Inc., 1141 W. Wildwood Ave., Fort Wayne 2, Ind.
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
R. M. Hollingshead Co., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
Kamen Soap Prods., Co., 233 Broadway, N. Y. 7
Kutol Products Co., 2817 Highland Ave., Cincinnati
Los Angeles Soap Co., 617 E. First St., Los Angeles
Mione Mfg. Co., Collingdale, Pa.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
North Coast Soap & Chem. Wks., Seattle, Wash.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis, Mo.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Quickee Prods. Inc., 141 Woodworth Ave., Yonkers, N. Y.
Real Solvent, Inc., 179 Lexington Ave., Bklyn. 16
S & E Chemical Co., 1751 N. Harding Ave., Chicago
S. & S. Soap Co., 815 E. 135 St., N. Y. 54
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Sugar Beet Prods. Co., Saginaw, Mich.
Surety Laboratories, 3946 Olive St., St. Louis 8
Swift & Co., Chicago
Theobald Industries, P. O. Box 72, Harrison, N. J.
Trio Chem. Wks., 314 Scholes St., Bklyn.
Sprayway, Inc., 7638 Vincennes Ave., Chicago 20
U. S. Sanitary Spec. Corp., 1001 S. Calif., Chicago 12
Utility Co., 636 W. 44th St., N. Y.
Veneer-O-Wax Corp., 2010-12 Fletcher St., Phila.
Warsaw Chem. Co., Warsaw, Ind.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8

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Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago 8
Dameron Enterprises, 4275 20th St., Louisville, Ky.
DL Products, Inc., 51 E. Market St., Buffalo 4, N. Y.
Eagle Soap Co., Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chemicals, 5906 N. Port Washington Rd., Milwaukee
Fitzpatrick Bros., 1300 W. 32 Pl., Chicago 8
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New South Mfg. Co., 711 Bankhead Ave., NW, Atlanta
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Peerless Chem. Co., 1300-02 N. Fulton Ave., Baltimore
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Dist. Co., Cincinnati
Puro Co., 2801 Locust St., St. Louis 3
S. & S. Soap Co., 815 E. 135 St., N. Y. 54
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
I. Schneid, Inc., 765 Trabert Ave., NW, Atlanta, Ga.
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Sugar Beet Prods. Co., Saginaw, Mich.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
The Utility Co., 636-642 W. 44th St., N. Y. 26
U. S. Borax & Chem. Corp., 50 Rockefeller Plaza, N. Y. 20
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Warren Soap Mfg. Co., Cambridge, Mass.
Warsaw Chem. Co., Warsaw, Ind.

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Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Essential Chemical Co., 5906 N. Port Washington Rd., Milwaukee
James Good, Inc., 2107 Susquehanna Ave., Phila.
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Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Higley Chemical Co., Dubuque, Iowa
Kamen Soap Prods., Co., 233 Broadway, N. Y. 7
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
North Coast Soap & Chem. Works, Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Purex Corp., 9300 Rayo Ave., South Gate, Calif.
John T. Stanley Co., 642 W. 30th St., N. Y.
Standard Soap Co. Div., 205 S. 2nd St., Camden, N. J.
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HEPTACHLOR (Technical)

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Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., 40 Rector St., N. Y. 6
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
S. B. Penick & Co., 100 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Residex Corp., foot of Centre St., Newark, N. J.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Velsicol Corp., 330 E. Grand Ave., Chicago

HEXACHLOROPHENE

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Geigy Agricultural Chemicals, Ardsley, N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
Victor Chemical Works, 155 N. Wacker Dr., Chicago
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17

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Gifford Wood Co., 420 Lexington Ave., N. Y.
Girdler Process Equipment Div., Louisville, Ky.
Manton Gaulin Mfg. Co., Everett, Mass.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Morehouse-Cowles, Inc., 1150 San Francisco Rd., Los Angeles
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Read Standard Corp., York, Pa.
Henry Simon Ltd., Cheadle Heath, Stockport, England
U. S. Stoneware Co., Akron 9, O.
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James Good, Inc., 2107 Susquehanna Ave., Phila. 25
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
J. L. Prescott Co., 27 8th St., Passaic, N. Y.
John T. Stanley Co., 642 W. 30th St., N. Y.
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kansas City 8
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Washine Chem. Corp., Lodi, N. J.

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Fairmount Chem. Co., 600 Ferry St., Newark 5, N. J.
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Merck & Co., Rahway, N. J.
Metalectro Corp., Laurel, Md.
Olin Mathieson Chem. Corp., Baltimore 3

HYDROGEN PEROXIDE

Becco Chem. Div., Buffalo 7, N. Y.
Columbia Southern Chem. Corp., Pittsburgh
Mallinckrodt Chem. Wks., St. Louis 7
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Shell Chem. Corp., 50 W. 50 St., N. Y. 20
Solvay Process Div., 61 Broadway, N. Y.

HYDROGENATED OILS

Armour & Co., 1355 W. 31st St., Chicago
Baker Castor Oil Co., 40 Ave. A, Bayonne, N. J.
Eastern Industries, Ridgefield, N. J.
Emery Industries, 4300 Carew Tower, Cincinnati
Harchem Div., Box 178, Newark, N. J.
Lever Bros. Co., 390 Park Ave., N. Y. 22
M. Michel & Co., 90 Broad St., N. Y. 4
Procter & Gamble Dist. Co., Cincinnati
Swift & Co., Hammond, Ind.
Vegetable Oil Prods., 5568 E. 61 St., Los Angeles
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Midland Laboratories, Dubuque, Iowa
Monsanto Chemical Co., St. Louis 4
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Pennsylvania Industrial Chem. Corp., Clairton, Pa.
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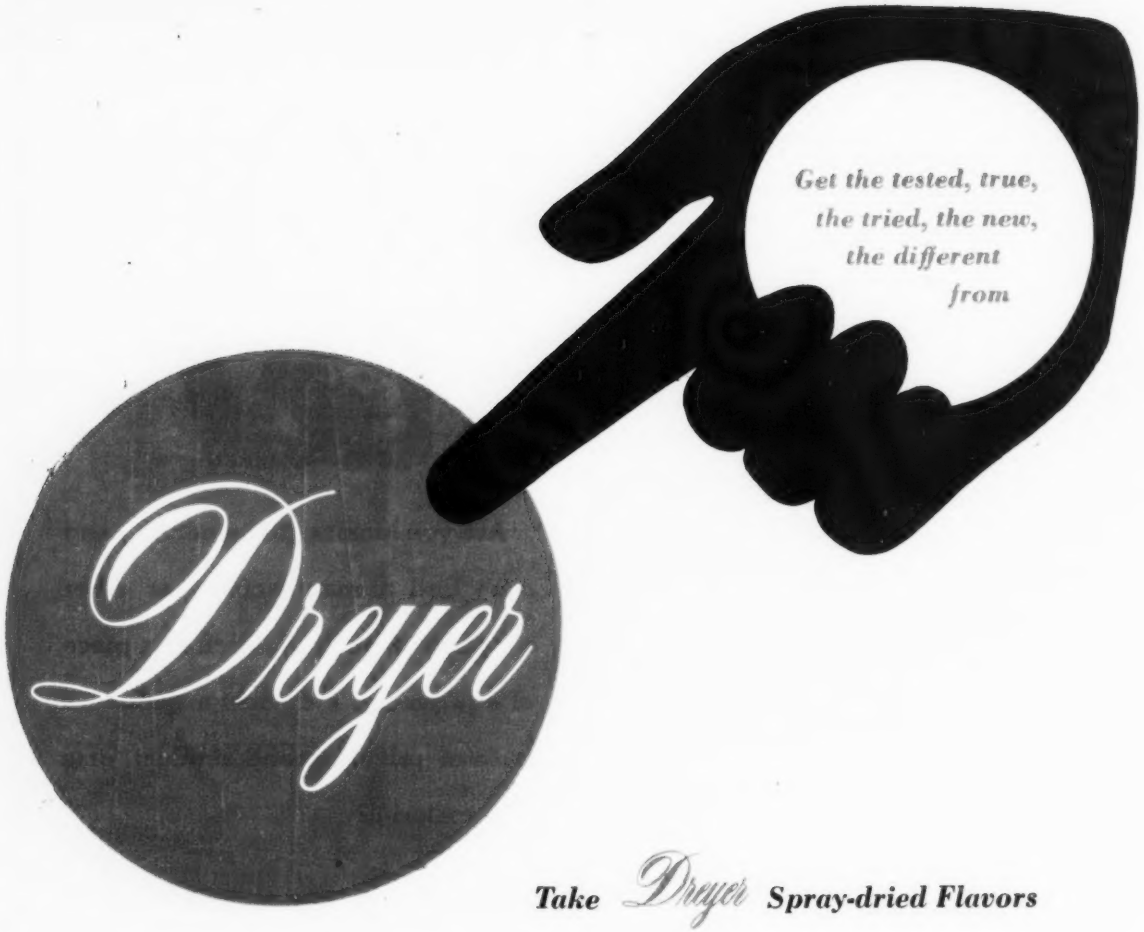
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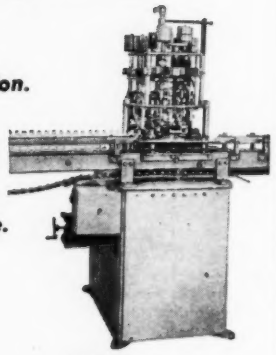
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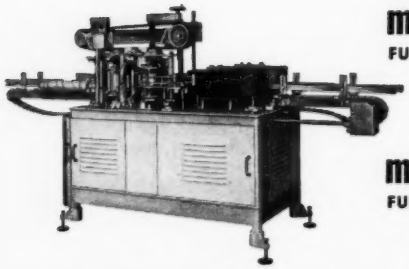
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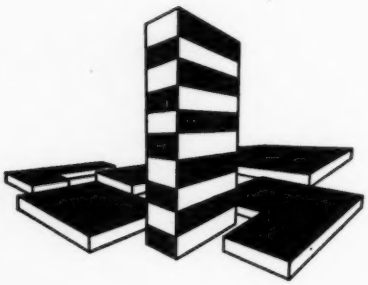
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Potdevin Machine Co., 200 North St., Teterboro, N. J.
Scientific Filter Co., 59 Rose St., N. Y.
Standard-Knapp Div., Portland, Conn.
Stokes & Smith Div., 4915 Summerdale Ave., Phila.

LABELING MACHINES (Boxes & Cakes)

Alsop Engineering Corp., Milldale, Conn.
Economic Machy. Co., 60 Fremont St., Worcester, Mass.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
New Jersey Machine Corp., Hoboken, N. J.
Potdevin Machine Co., 200 North St., Teterboro, N. J.

LABELS, Paper and Foil

Cameo Die & Label Co., 154 W. 14th St., N. Y.
Continental Can Co., 100 E. 42nd St., N. Y. 14
Dennison Mfg. Co., Framingham, Mass.
Ever Ready Label Corp., Belleville 9, N. J.
Foilcraft Printing Corp., 3611 14th Ave., Bklyn.
Foxon Co., Providence, R. I.
Milprint, Inc., Milwaukee 1, Wisc.
Reynolds Metals Co., Richmond, Va.

LABORATORIES, TESTING

Carl N. Anderson, 342 Madison Ave., N. Y. 17
Frank O. Hazard, Xenia Rd., Wilmington, O.
Hudson Laboratories, Inc., 117 W. 13th St., N. Y. 11
Hilltop Research Inst., Inc., Miamiville, O.
Industrial Bio-Test Labs., Inc., 1810 Frontage Rd., Northbrook, Ill.
Kroner Laboratories, 275 Water St., N. Y. 7
LaWall & Harrisson, 1921 Walnut St., Phila. P.
Lodes Aerosol Consultants, Inc., 730 5th Ave., N. Y.
Leberco Labs., 123 Hathorne St., Roselle Pk., N. J.
J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Molnar Laboratories, 211 E. 19th St., N. Y.
Donald Price, 17 W. 60th St., N. Y. C.
Reed Research Corp., Mill St., Huntington, Shelton, Conn.
Rosner-Hixson Laboratories, 7737 S. Chicago Ave., Chiacgo
Scientific Associates, 3755 Forest Park Blvd., St. Louis
Skinner & Sherman Co., 227 California St., Newton, Mass.
Foster D. Snell, 29 W. 15th St., N. Y.
Stillwell & Gladding, 130 Cedar St., N. Y.
U. S. Testing Co., 1415 Park Ave., Hoboken, N. J.
Wells Laboratories, Inc., 25-27 Lewis Ave., Jersey City 6, N. J.
Wisconsin Alumni Research Foundation, Madison, Wis.

LABORATORY APPARATUS AND EQUIPMENT

Aero-Matic Labs., 483 Nepperhan Ave., Yonkers, N. Y.
Atlas Electric Devices Co., 4114 N. Ravenswood Ave., Chicago
Builders Sheet Metal Works, 108 Wooster St., N. Y. C. (aerosols)
Bechman Instruments, Inc., 2500 Fullerton Rd., Fullerton, Calif.
Burrell Corp., 2223 Fifth Ave., Pittsburgh
Cargille Scientific, Inc., 117 Liberty St., N. Y. 6 (chlorine and quaternary test kits)
Central Scientific Co., 1700 W. Irving Pk., Chicago
J. H. Day Co., Cincinnati 12, (roller mills)
Harry W. Dietert Co., 9330 Roselawn Ave., Detroit (device for determining moisture content)
Ertel Engineering Corp., West Front St., Kingston, N. Y. (Filters)
Fisher Scientific Co., 717 Forbes St., Pittsburgh
Emil Greiner Co., 161 Avenue of Americas, N. Y.
Kent Machine Wks., 37 Gold St., Brooklyn (roller mills)
Kimble Glass Co., Toledo 1, O.
Laboratory Construction Co., 111 Holmes St., Kansas City, Mo.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J. (mills and plodders)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Chas. Ross & Son Co., 150-154 Classon Ave., Brooklyn 5 (roller mills and mixers)
Arthur H. Thomas Co., Vine St. at 3rd., Phila.
U. S. Stoneware Co., Akron 9, O. (Ball Mills)

LABORATORY CHEMICALS

J. T. Baker Chemical Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.

LABORATORY CHEMICALS (Contd.)

Fine Organics, Inc., 205 Main St., Lodi, N. J.
Fisher Scientific Co., 717 Forbes St., Pittsburgh
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Mallinckrodt Chemical Works, 3600 N. 2nd St., St. Louis
Merck & Co., Rahway, N. J.
Arthur H. Thomas Co., Vine St., at 3rd., Phila.

LANOLIN

American Lanolin Corp., Lawrence, Mass.
Bopf-Whittam Corp., 1135 Elizabeth Ave., W., Linden, N. J.
Botany Worsted Mills, Dayton Ave., Passaic, N. J.
Frank G. Fanning Co., 352 Doremus Ave., Newark, N. J.
N. I. Malmstrom & Co., 147 Lombardy St., Brooklyn
Merck & Co., Rahway, N. J.
S. B. Penick & Co., 100 Church St., N. Y. 8
Pfaltz & Bauer, Inc., 350—5th Ave., N. Y.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Robinson, Wagner Co., 628 Waverly Ave., Mamaroneck, N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westbrook Lanolin Co., Bradford, England

LAUNDRY BLEACH (Sodium Hypochlorite)

Columbia-Southern Chem. Corp., Pittsburgh
Cowles Chem. Co., 7016 Euclid Ave., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., 40 Rector St., N. Y. 6
H. Kohnstamm & Co., 161 6th Ave., N. Y. C.
Monsanto Chemical Co., St. Louis 24, Mo.
National Milling & Chemical Co., 4601 Flat Rock Rd., Phila. 27
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Jos. Turner & Co., Ridgefield, N. J.
Westvaco Chem. Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

LAUNDRY BLUE

American Cyanamid Co., Bound Brook, N. J.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Union Com. Bldg., Cleveland
General Dyestuffs Co., 435 Hudson St., N. Y.
Hilton-Davis Chemical Co., 2235 Langdon Farm Rd., Cincinnati
H. Kohnstomm & Co., 161 6th Ave., N. Y. C.
Leeben Color & Chem. Co., 103 Lafayette St., N. Y.
National Aniline Div., 40 Rector St., N. Y.
National Milling & Chemical Co., 4601 Flat Rock Rd., Phila. 27
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Wyandotte Chemicals Corp., Wyandotte, Mich.

LAUNDRY SOAP, CAKE

Albany Soap Corp., 46 Delaware Ave., Albany 3, N. Y.
Armour & Co., Chicago 9
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
East Coast Soap Corp., 89 Coffey St., Bklyn.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Fels & Co., 73rd St. & Woodland Ave., Philadelphia
Fitzpatrick Bros., 1300 W. 32 St., Chicago 8
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Lightfoot Co., 380 Madison Ave., N. Y. C.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
North Coast Chem. & Soap Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Purex Corp., 9300 Rayo Ave., South Gate, Calif.
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St.,N.Y.
Swift & Co., Union Stock Yards, Chicago
Warren Chem. Mfg. Inc., Norwood, Mass.

LAUNDRY SOAP, CHIP

Albany Soap Corp., 46 Delaware Ave., Albany 3, N. Y.
Armour & Co., Chicago 9
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22

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CONCORD CHEMICAL COMPANY, INC.
205 SOUTH SECOND STREET
CAMDEN 1, NEW JERSEY
WOODLAWN 6-1526

LAUNDRY SOAP, CHIP (Contd.)

E. F. Drew & Co., 15 S. 26th St., N. Y. 10
Du Bois Co., Cincinnati
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Fitzpatrick Bros., 1300 W. 32 St., Chicago 8
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Lever Bros. Co., 390 Park Ave., N. Y.
Lightfoot Co., 380 Madison Ave., N. Y. C.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
New South Mfg. Co., 711 Bankhead Ave., NW, Atlanta
North Coast Chem. & Soap Wks., Seattle, Wash.
Original Bradford Soap Wks., West Warwick, R. I.
Procter & Gamble Dist. Co., Cincinnati
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St.,N.Y.
Swift & Co., Union Stock Yards, Chicago
Theobald Industries, P. O. Box 72, Harrison, N. J.
U. S. Borax & Chem. Corp., 50 Rockefeller Plaza, N. Y.
Warren Chem. Mfg. Inc., Norwood, Mass.

LAUNDRY SOAP, POWD. AND GRAN.

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Albany Soap Corp., 46 Delaware Ave., Albany 3, N. Y.
Armour & Co., Chicago 9
Beach Soap Co., Lawrence, Mass.
Britex Corp., 17 Lewis Wharf, Boston
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Clifton Chem. Co., 150 Nassau St., New York
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3
Du Bois Co., Cincinnati
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Fitzpatrick Bros., 1300 W. 32 St., Chicago 8
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Lever Bros. Co., 390 Park Ave., N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
New South Mfg. Co., 711 Bankhead Ave. N.W., Atlanta
North Coast Chem. & Soap Wks., Seattle, Wash.
Original Bradford Soap Wks., West Warwick, R. I.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Dist. Co., Cincinnati
Puro Co., 2801 Locust St., St. Louis 3
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Theobald Industries, P. O. Box 72, Harrison, N. J.
Valley Prods. Co., 385 E. Brooks Ave., Memphis 9, Tenn.
Warren Chem. Mfg. Inc., Norwood, Mass.

LAUNDRY SOURS (Fluoride, etc.)

American Fluoride Corp., 151 W. 19th St., N. Y.
Diamond Alkali Co., Union Commerce Bld., Cleveland
E. I. du Pont de Nemours & Co., Wilmington
General Chem. Div., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
H. Kohnstamm & Co., 161 6th Ave., N. Y. C.
Olin Mathieson Chem. Corp., Joliet, Ill.
Pennsalt Chem. Corp., 3 Penn Center Plaza, Phila.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Victor Chem. Works, 155 N. Wacker Dr., Chicago
Wyandotte Chemicals Corp., Wyandotte, Mich.

LAURIC ACID (see also Fatty Acids)

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
Emery Industries, Carew Tower, Cincinnati
Foremost Food & Chem. Co., Oakland, Calif.
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., Box 178, Newark, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Robinson Wagner Co., 628 Waverly Ave., Mamaroneck, N. Y.
Swift & Co., 165th St., Hammond, Ind.
Vegetable Oil Prods., 5568 E. 61 St., Los Angeles
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wilson-Martin Div., Snyder & Swanson, Phila.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

LAURYL ALCOHOL

American Alcolac Corp., 3440 Fairfield Rd., Balto. 26
Archer-Daniels-Midland Co., Minneapolis 2
DeHydag Deutsche Hydrierwerke, Henkelstrasse 67, Dusseldorf, Germany
E. I. du Pont de Nemours & Co., Wilmington
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y. C.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 10
M. Michel & Co., 90 Broad St., N. Y. 4
Marchon Prods., Ltd., Whitehaven, Cumberland, England
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Robinson Wagner Co., 628 Waverly Ave., Mamaroneck, N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

LEAK DETECTORS, AEROSOL (see Aerosol Leak Detectors)

LECITHIN

American Lecithin Corp., 57-01 32nd Ave., Woodside 77, N. Y.
Drackett Co., 5020 Spring Grove, Cincinnati 32
Glidden Co., 1825 N. Laramine Ave., Chicago
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Ross & Rowe, Inc., 50 Broadway, N. Y.
Welch, Holme, & Clark Co., 1 Hudson St., N. Y. 13
Wilson Labs., 4221 S. Western Blvd., Chicago

LEMON OIL, LEMONGRASS OIL (see Essential Oils)

LETHANE

Rohm & Haas, Inc., 222 W. Washington Sq., Phila.

LIME

National Gypsum Co., Delaware Ave., Buffalo 2, N. Y.
U. S. Gypsum Co., W. Adams St., Chicago
West End Chem. Co., 1956 Webster St., Oakland, Calif.
Whittaker, Clark & Daniels, 100 Church St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

LINDANE (Benzene Hexachloride, 99% gamma isomer)

California Spray-Chemical Corp., Richmond, Calif.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., 40 Rector St., N. Y. 6
Hooker Chemical Corp., Niagara Falls, N. Y.
S. B. Penick & Co., 100 Church St., N. Y. 8
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Westvaco Chem. Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

LINDANE FORMULATIONS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chem. Co., Midland, Mich.
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 Wolfe St., Baltimore 31
Geigy Agri. Chems., Ardsley, N. Y.
General Chemical Div., 40 Rector St., N. Y.
Hub States Chem. & Equipment, 1255 N. Windsor St., Indianapolis
Hysan Prods. Co., 936 W. 38th Pl., Chicago
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Michigan Chemical Corp., St. Louis, Mich.
Midland Laboratories, 210 Jones St., Dubuque, Iowa
Olin Mathieson Chem. Corp., Baltimore 3
S. B. Penick & Co., 100 Church St., New York
Pittsburgh Coke & Chem. Co., 2000 Grant Bldg., Pittsburgh
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. 3 St. Kansas City, Kan.

LINDANE FORMULATIONS (Contd.)

J. W. Quinn Drug Co., Greenwood, Miss.
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
George Stearns Chem. Co., 4200 E. Mendota St., Madison, Wisc.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kansas City 8
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
York Chem. Co., 23 Dean St., Bklyn. 1

LINERS, bag, barrel, box, case and drum

Angier Corp., Framingham, Mass.
Arkell Safety Bag Co., 10 E. 40th St., N. Y.
Bemis Bros. Bag Co., 601 S. 4th St., St. Louis
Canton Containers, Inc., 1101 9th St., S.E., Canton, Ohio
Kalamazoo Vegetable Parchment Co., Parchment, Mich.
Thilmany Pulp & Paper Co., Kaukanna, Wisc.
Western Waxed Paper Div., Crown Zellerbach Corp., San Leandro, Calif.
Wyndmoor Mfg. Corp., 306 Lyons Ave., Newark, N. J.

LINING MACHINERY (Cartons)

Clybourn Machine Corp., 6479 N. Avondale Ave., Chicago 31
R. A. Jones & Co., Covington, Ky.
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
F. B. Redington Co., 112 Sangamon St., Chicago
Stokes & Smith Div., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 6633 W. Diversey Blvd., Chicago 51

LINSEED OIL

Archer-Daniels-Midland Co., Minneapolis, Minn.
Brazilian Industrial Oils, 75 West St., N. Y. 6
Falk & Co., Pittsburgh
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Pacific Vegetable Oil Corp., 1145 S. 10 St., Richmond, Calif.
J. H. Redding, Inc., 17 Battery Place, N. Y.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Swift & Co., Hammond, Ind.
Arthur C. Trask Co., 4102 S. LaSalle St., Chicago
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.

LINSEED OIL FATTY ACIDS

Archer-Daniels-Midland Co., Mineapolis 2
Falk & Co., Pittsburgh 30
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

LINSEED OIL SOAP (see Potash Soaps)

LIQUID SOAPS AND BASES (see Potash Soaps)

LUDOX

E. I. du Pont de Nemours & Co., Wilmington

MACHINERY, USED (see Used Machinery)

MAGNESIUM CAFBONATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Chas. B. Chrystal Co., 53 Park Pl., N. Y. 7
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Michigan Chemical Corp., St. Louis, Mich.
Merck & Co., Rahway, N. J.
Morton Chem. Co., 110 N. Wacker Dr., Chicago 6
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Tamms Industries, 228 N. La Salle St., Chicago
Westvaco Chem. Div., 161 E. 42nd St., N. Y.
Whittaker, Clark & Daniels, 100 Church St., N. Y.

MAGNESIUM OXIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Dow Chem. Co., Midland, Mich.
Morton Chem. Co., 110 N. Wacker Dr., Chicago 6
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.

MAGNESIUM STEARATE (see Stearates)

MAHOGANY SULFONATES (see Petroleum Sulfonates)

MAHOGANY SOAP (see also Naphthenic Acids; Naphthalene Sulfonates; Sulfonates)

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
Emery Industries, 4300 Carew Tower, Cincinnati
Harchem Div., Box 178, Newark, N. J.
Oronite Chemical Co., 200 Bush St., San Francisco
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Pennsylvania Refining Co., Butler, Pa.
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Sun Oil Co., 1608 Walnut St., Phila. 3

MALATHION

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.

MANILA (see Gums)

MANUFACTURER'S AGENTS

S. L. Abbot Co., 135 King St., San Francisco
Allied Basic Chemicals Ltd., 35 Anderson Ave., Toronto 12, Canada
S. E. Armstrong & Co., Union Trust Bldg., Pittsburgh
T. C. Ashley & Co., 683 Atlantic Ave., Boston
Barada & Page, Inc., Maple & Leake Aves., New Orleans, La.
E. L. Barber, 6 C Mary Ella Drive, Wilmington, Dela.
Barrett & Breen Co., 80 Federal St., Boston
Ivan T. Bauman Co., 817 N. 2nd St., St. Louis 2
D. B. Becker Co., 150 Nassau St., N. Y. 38
Leon Beck Co., 1070 Folsom St., San Francisco 3
Belco Chemical Co., Milwaukee, Wisc.
W. Ronald Benson, 820 First Ave., Seattle, Wash.
G. W. Blanchard Co., Washington, D. C.
B. H. Boyet & Co., 109 N. 21st St., Louisville, Ky.
George C. Brandt Inc., 1940 Blake St., Denver, Colorado
Fred L. Brooke Co., P. O. Box 463, Oak Park, Ill.
J. J. Brown Co., 257 S. Spring St., Los Angeles
E. S. Browning Co., 1515 3rd St., San Francisco
A. C. Burke & Co., Box 243, North Hollywood, Calif.
Charles L. Burks Co., P. O. Box 1032 Black Mountain, N. Carolina
Jos. A. Burns & Son, 124 Harrison Ave., Pittsburgh
L. H. Butcher, 15th & Vermont, San Francisco
William Cairns, 23731 Russell Rd., Bay Village, O.
Campbell Chemical Co., 1516 Oliver Bldg., Pittsburgh 22
Geo. C. Canzoneri, 507—5th Ave., N. Y. 17
Capital Sales Co., 2624 W. 6th St., Los Angeles 57
Carroll Co., 1323 Wall St., Dallas, Texas
Fred N. Clemson, 34 Smith St., Marblehead, Mass.
Lon V. Clifton, 1901 N. 25th St., Phoenix, Ariz.
Columbia Chem. Co., 154 E. Erie St., Chicago 11
Commercial Chemicals, Inc., 211 Hertel Ave., Buffalo 7
J. W. Copps, P. O. Box 116 Station F, Milwaukee, Wisc.
Cordano Chemical Co., 56 S.E. Belmont St., Portland, Ore.
Joe Coulson Co., 2525 Cline St., Houston 1, Texas
Carl Cramer Co., 626 Broadway, Cincinnati 2
Thomas R. Curtan, 142 W. 12th Ave., Denver, Colo.
Arthur G. De Vries, 136 W. 2nd St., Reno, Nev.
Dorsett & Jackson, 840 E. 60th St., Los Angeles 1
Douw Fonda Co., 1440 11th St., Denver 4, Colo.
Dowdy Bros., 33 & Arch Sts., Phila.
Ducros & Co., 2860 E. 130th St., Cleveland
A. T. Eavenson & Sons, P. O. Box 312, Swarthmore, Pa.
J. T. Erlin Co., 383 Brannan St., San Francisco 7
Everitt & Ray, 225 W. 23rd St., Los Angeles 7
Wallace Fambrough, Atlanta, Ga.
C. W. Farris, 1711 Delmar Blvd., St. Louis 3, Mo.
Fenton Sales Co., 1150 Broadway, New York, N. Y.
Donald R. Fitzgerald, 1005 W. Belmont, Chicago
R. E. Flatow & Co., 10 Madison St., Oakland, Calif.
Floor Equipment Co., 2507 E. Rosedale, Ft. Worth, Texas
Walter R. Franks, Box 11C, Elmhurst, Ill.
Raymond Fry, Cleveland, Ohio
Fuller Associates, 616 St. Claire Ave., NE Cleveland 14

MANUFACTURER'S AGENTS (Contd.)

Erwin Gerhard, 9 Main St., San Francisco
Gillies, Inc., 164 Court Place, Denver, Colo.
E. P. Gilsdorf & Co., 246 Ritch St., San Francisco
Edward S. Gilson Co., 5050 Union Central Bldg., Cincinnati
H. Gloeckler Assoc., 155 E. 44th St., N. Y. 17
Globe Chem. Co., Murray Rd., Cincinnati
L. C. Green Co., 605 3rd St., San Francisco 7
Griffith-Mehaffey Co., Inc., 102 Peydras St., New Orleans 12
Clayton Hall, 2119 N. Prairie, Dallas 4, Texas
Wm. G. Hanks, 6319 Kingsway Dr., Afton 23, Mo.
Halpin Sales Co., 2508 Derbyshire Rd., Cleveland Heights, O.
Harrisons & Crossfield Ltd., 240 Adelaide St., W., Toronto, Canada
Jack Heiken, Indianapolis, Indiana
Jack W. Henderson, 322 Casa Linda Plaza, Dallas, Tex.
Robert Henry, 1481 McLean, Flint, Mich.
Daniel G. Hereley Co., 1607 Howard St., Chicago 26
Walter H. Herrs, 308 W. Washington St., Chicago
Highland Sales Co., 1863 Wazee St., Denver, Colo.
Robert Hoffman, 575 Midwood St., Bklyn.
George R. Hoffmeister, 3521 West Dallas St., Houston, Tex.
O. Hommel Co., Pittsburgh, Pa.
R. T. Hopkins Co., 544 Means St., N.W., Atlanta, Ga.
Horn, Jeffreys & Co., Burbank, Calif.
Hornney & Co., 420 Lexington Ave., N. Y. 17
Howley-White Co., 100 Arlington St., Boston, Mass.
R. B. Huber Co., 16 Tremont St., Boston, Mass .
E. N. Humiston, 424 Belmont Ave., Waterloo, Iowa
Wade Hunt Sales Co., Dallas, Texas
Made Hunt Sales Co., Box 26164, Houston, Tex.
M. F. Huseby Co., 2166 Market St., San Francisco
W. R. Husen Co., 125 Woodland Ave., E. Orange, N. J.
D. W. Hutcheson Co., 665 Boylston St., Boston, Mass.
Clifford L. Iorns Co., 216 S. 7th St., St. Louis
James & Cooper Co., 2323 Gardenia Dr., Houston, Tex.
S. Chas. Jacques, 4426 Berkshire Rd., Royal Oak, Mich.
H. Earl Johannes, 3011 E. 56th St., N., Kansas City, Mo.
Walter B. Joyner, Box 543, Colonial Empire, Inc., Manchester, Conn.
Fred W. Kamin, 14820 Detroit Ave., 2, Tex.
Leonard Karotkin, P. O. Box 1137, Hartford, Conn.
Bernard Karsch, 26-11 172nd St., Flushing, N. Y.
E. W. Kaufman, Phila., Pa.
Clyde Kelly, Memphis, Tenn.
C. F. Kennedy Co., 5306 West Chicago Ave., Chicago
T. C. Kiesel, 3141 Lasantville, Cincinnati
Jerome Kinoy Co., Box 201, South Station, Yonkers, N. Y.
Homer W. Kinnish, 643 W. 52nd St., Seattle 7, Wash.
Kirby Sales Co., 841 E. 4th Pl., Los Angeles
M. H. Knox & Company, 617 Sansome St., San Francisco
Franklin J. Koch Sales Co., 12754 Otsego, N. Holiywood, Calif.
Krauter Trading Co., 51 E. 42nd St., N. Y. 17
James H. Lawton, 245 Rose Court, Ridgewood, N. J.
George Lee, 1514 S. Main St., Houston 2, Tex.
David Lester, 1855 Industrial St., Los Angeles 21, Calif.
Leuck Sales Service, Panama City, Fla.
Lewis & Company, 102 W. Main St., Louisville 2, Ky.
Edward J. Lewis Co., 9 S. Clinton St., Chicago
Walter Lewis, 30 Circuit Rd., Winthrop, Mass.
Wm. C. Loughlin Co., 311 California St., San Francisco
M. R. Matterson-Van Weg. Inc., 403 Baltimore Ave., W. Detroit
Merchants Chem. Co., 60 E. 42nd St., N. Y. 17
Lee R. Meyer, Altadena, Calif.
James O. Meyers Sons, 290 Larkin St., Buffalo 10. N. Y.
Mierson Sales Co., 615 2nd St., San Francisco 7
Monroe-Danford & Co., 50 48th St., Weehawken, N. J.
Morgan & Sampson, 866 Folsom St., San Francisco
A. C. Mueller Co., 14625 Detroit Ave., Cleveland
C. K. Mullin, Inc., 160 Washington N., Boston 14
Mundo Trading Co., 6325 Pine Ave., Bell, Calif.
Naylor & Burt, 150 S. Fourth, West, Salt Lake City
J. E. Niehaus & Company, 3419-21 Fratiot St., St. Louis
A. C. Nispel, Inc., 150 Causeway St., Boston 14, Mass.
Oliver-Roberts Co., 1800 Peracta St., Oakland, Calif.
O'Reilly & Boaden, Greenville, R. I.
G. R. O'Shea Co., 858 Diversey Parkway, Chicago 14, Ill.
Pacific Coast Chm. Co., 2060 3rd St., Berkeley 10, Calif.
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Pan-American Sales Co., 109 Barwise, Box 1284, Wichita Falls, Tex.
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Ken Poulsen Associates, P.O. Box 801, Madison, Wisc.
Pressel & Co., 1353 Myrtle Ave., Bklyn.
Quigley & Mike, 7-133 General Motors Bldg., Detroit, Mich.
Roy A. Ribelin Distributing Co., 570 A.M. & M. Bldg., Houston, Tex.
Glenn W. Richard, 146 Raleigh Ave., Mansfield, Ohio
W. W. Richerson, Santa Fe Bldg., Dallas 2, Tex.
Lawrence Riley, 418 Hudson Ave., Albany, N. Y.
R. I. T. A. Chemical Corp., 612 No. Michigan Ave., Chicago 11
B. Cancel Rivera & Co., Box 1196, Bayamon, Puerto Rico
B. H. Roettker & Co., 3732 Lovel St., Chevoit, Ohio
Sidney Ross, 6490 Ardleigh St., Phila.
A. W. Runglin Co., 672 S. Lafayette Park Place, Los Angeles
Ryan Leary Sales Co., 373 Trapelo Rd., Belmont 79, Mass.
Samson Raw Material Co., 5105 West Pico Blvd., Los Angeles
Henry Schwartz, Box 12, Little Neck 62, N. Y.
Selective Enterprises, 1200 N. Alvarado St., Los Angeles 26
Robert F. Sheahan Co., 728 M. & M. Bldg., Memphis, Tenn.
Thos. J. Shields Co., 11 Water St., N. Y. 4
M. H. Siegel, 7020 Park Heights Ave., Baltimore
S. S. Skelton Co., 2775 S. Morland, Cleveland
D. B. Smith Co., 1016 1st Ave., S., Seattle, Wash.
Donld McKay Smith, Cleveland, O.
K. A. Steel Chemicals, Inc., 7450 Stony Island Ave., Chicago
M. Shubinski, 3717 Stanford, Dallas, Tex.
Skelton Chemical Co., Detroit, Mich.
M. B. Sweet Co., 9100 S. Park Ave., Chicago 19
David R. Swift Co., 304 Merchandise Mart, Dallas
E. B. Taylor Co., 442 Colyton St., Los Angeles
H. D. Thornley Co., 901 Liftwood Rd., Wilmington, Dela.
David H. Tilley Co., 516 N. Charles St., Baltimore
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Triangle Chemical Co., Atlanta, Ga.
Triple V Chemicals, 64 Glenwood St., Malden 48, Mass.
The Truesdale Co., 52 Cambridge St., Boston, Mass.
Trump Associates, Inc., 545 N. 4th Ave., Tucson, Ariz.
Van Horn, Metz & Co., 241 E. Elm St., Conshohocken, Pa.
Wm. Ullrich, 14 S. Albert St., Mt. Prospect, Ill.
E. M. Walls Co., 353 Sacramento St., San Francisco
George H. Walsh, 1765 S. Olympian Way, SW Atlanta.
John E. Walsh, 180 Bolling Rd., NE Atlanta
A. L. Webb & Sons, Inc., 1411-13 Fleet St., Baltimore 31
O. L. West, 50 E. Wynnewood Rd., Rm. 202, Wynnewood, Pa.
R. W. Westerfield & Co., 228 West Kinzie St., Chicago 10
L. A. Whitney Co., 50 Kearny Rd., Needham, Mass.
The Paul Wiemer Co., 2089 Sherman Ave., Norwood, Ohio
Wilwite Associates, West Grand Avenue & Wood St., Oakland, Calif.
Silas Wootton & Co., Merchandise Mart Bldg., Dallas
Lawson H. Yates Co., Third National Bank Bldg., Nashville, Tenn.
Jessee S. Young Co., 2 Park Ave., N. Y. 16
E. E. Zimmerman Co., Keenan Bl., Pittsburgh 22

MARINE SOAPS (see Salt Water Soaps)

MARBLE FLOOR (see Listings under Abrasives and Fillers)

MARKING MACHINES

Acro Tool & Die Works, 4554 Broadway, Chicago
Adolph Gottscho, Inc., 6 Evans Terminal, Hillside, N. J.
Kiwi Coders Corp., 4027 N. Kedzie Ave., Chicago

MASKING COMPOUNDS (see also perfuming compounds)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Pierre Coutin Associates, 118 E. 28th St., N. Y.
Gerard J. Danco Int. Corp., 5 E. 19 St., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dragoco, Inc., 250 W. Broadway, N. Y. 13
Felton Chem. Co., 603 Johnson Ave., Bklyn.
Firmenich, Inc., 250 W. 18th St., N. Y.
Flam-Haft Laboratories, 8 E. 12 St., N. Y. 3
Fleuroma, Inc., 38 W. 21st St., N. Y. 10
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fries & Fries, Inc., 110 E. 70th St., Cincinnati
Fritsche Brothers, Inc., 76 9th Ave., N. Y.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
Lautier Fils, Inc., 321 5th Ave., N. Y.
Magnus, Mabee & Reynard, 16 Debrosses St., N. Y.
A. Maschmeijer, Jr., Div., 630 5th Ave., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Prods. Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 100 Church St., N. Y. 8
Perry Bros., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Wks., Inc., 33 Sprague Ave., Middleton, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Rhodia, Inc., 60 E. 56th St., N. Y.
P. Robertet, Inc., 221 4th Ave., N. Y. 3
Roubechez, Inc., 8 E. 12th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Synfleur Scientific Laboratories, Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.

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- Synthetic Flower Oils and Aromatic Bases
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Tombarel Prods. Co., 725 Broadway, N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y.
Van Dyk & Co., Belleville 9, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Aromatics, 26 Verona Ave., Newark, N. J.

MECHANIC'S HAND PASTE (see Hand Soap)

MEDICINAL SOAPS (Cake)

Armour & Co., 1355 W. 31st St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayotn, O.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago

MEDICINAL SOAPS, LIQUID (see Potash Soaps)

MENTHOL (see also Essential Oils)

Aromatic Prods., 235 4th Ave., N. Y. 3
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
Consumers Import Co., 350 Fifth Ave., N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dragoco, Inc., 250 W. Broadway, N. Y.
P. R. Dreyer, 601 W. 26th St., N. Y.
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Felton Chem. Co., 603 Johnson Ave., B'klyn, 37
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Frizsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Glidden Co., Jacksonville, Fla.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 10
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Magnus, Mabee & Reynard, Inc., 16 Desbrosses St., N. Y.
Marubeni-Jida, Inc., 39 Broadway, N. Y. 6
McKesson & Robbins, Inc., 155 E. 42nd St., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Orbis Products Corp., 601 W. 26th St., N. Y.
Polak's Frutal Works, 33 Sprague Ave., Middletown, N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Schimmel & Co., 601 W. 26th St., N. Y.
Tombarel Prods., 725 Broadway, N. Y. 3

MERCAPTANS (see Thioglycolic Acid)

METAL POLISH (see Polishes, Metal)

METALLIC SOAPS (see Stearates)

METHANOL (Synthetic) (see also Alcohols)

Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati
Buffalo Solvents & Chemicals Corp., Box 73 Station B, Buffalo, N. Y.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Solvents & Chems. Co., Dixie Highway, Louisville, Ky.
E. I. du Pont de Nemours & Co., Wilmington
Hercules Powder Co., Wilmington
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis, Ind.
Merck & Co., Rahway, N. J.
Missouri Solvents & Chemicals Co., 419 De Sota Ave., St. Louis
Nitrogen Div., 40 Rector St., N. Y.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland
Olin Mathieson Chem. Corp., Baltimore 3
Reichhold Chemicals, Inc., White Plains, N. Y.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Southern Solv. & Chem. Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chemicals Co., 8501 Market St., Houston, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Wisconsin Sols. & Chems. Corp., 1719 S. 83rd St., Milwaukee, Wisc.
Wolverine Solv. & Chem. Co., 2940 Stafford Ave., SW, Grand Rapids

METHOXYCHLOR

E. I. du Pont de Nemours & Co., Wilmington
Geigy Agri. Chems., Ardsley, N. Y.

METHOXYCHLOR FORMULATIONS

Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
E. I. du Pont de Nemours & Co., Wilmington
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agri. Chems., Ardsley, N. Y.
General Chemical Div., 40 Rector St., N. Y.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
S. B. Penick & Co., 100 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Warsaw Chem. Co., Warsaw, Ind.

METHYL ANTHRANILATE (see also Aromatic Chemicals)

Aromatic Prods., 235 4th Ave., N. Y. 3
Chemo Puro Mfg. Corp., 150 Doremus Ave., Newark,N . J.
Dodge & Olcott, Inc., 180 Varick St., N. Y. 14
Dow Chemical Co., Midland, Mich.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Fine Chems. Div., Shulton, Inc., Clifton, N. Y.
Florasynth Labs., 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76 9th Ave., N. Y. 11
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y. 13
Newman-Buslee & Wolfe, 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Polak's Frutal Works, 33 Sprague Ave., Middletown, N. Y.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Schimmel & Co., 601 W. 26th St., N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Aromatics, 26 Verona Ave., Newark 4, N. J.

METHYL BROMIDE

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Dow Chemical Co., Midland, Mich.
Kolker Chem. Co., St. Louis, Mich.
Westvaco Chem. Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

METHYL CELLULOSE

Antara Chemicals, Div., 435 Hudson St., N. Y. 14
Dow Chem. Co., Midland, Mich.
Hercules Powder Co., 961 Market St., Wilmington, Del.

METHYL CHLORIDE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
Diamond Alkali Co., Union Commerce Bldg., Cleveland.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Kolker Chem. Co., 600 Doremus Ave., Newark 5, N. J.
Solvay Process Div., 61 Broadway, N. Y.
Virginia Smelting Co., W. Norfolk, Va.

METHYL ETHYL KETONE

Amsco Sols. & Chems. Co., 4619 Reading Road, Cincinnati
Buffalo Sols. & Chems. Corp., Buffalo 7, N. Y.
Celanese Corp. of America, 180 Madison Ave., N. Y. 16
Dixie Sols. & Chems. Co., Dixie Hgwy., Louisville
Enjay Co., 15 W. 51 St., N. Y. 9
Hoosier Sols. & Chems. Corp., 1650 Luett Ave., Indianapolis
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis 7
Nitrogen Div., 40 Rector St., N. Y.
Ohio Sols. & Chems. Co., 3470 W. 140 St., Cleveland
Olin Mathieson Chem. Corp., Baltimore 3
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Shell Chem. Corp., 50 W. 50 St., N. Y.
Southern Sols. & Chem. Corp., 917 Jefferson Hgwy., New Orleans
Texas Sols. & Chems. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
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Dow Chemical Co., Midland, Mich.
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Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y. 13
A. Maschmeijer, 630 5th Ave., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis 24, Mo.
Neumann, Buslee & Wolfe, Inc., 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 100 Church St., N. Y. 8
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Schimmel & Co., 601 W. 26th St., N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
Verona Aromatics, 26 Verona Ave., Newark 4, N. J.

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American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
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Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Kolker Chem. Corp., 600 Doremus Ave., Newark, N. J.
Solvay Process Div., 61 Broadway, N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.

MICROCRYSTALLINE WAXES (see Waxes, Microcrystalline)

MILDEW PREVENTIVES

Antara Chemicals, Div., 435 Hudson St., N. Y. 14
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
Chem. Service Co. of Baltimore, Howard & West Sts., Baltimore
Chemo Puro Mfg. Co., 150 Doremus Ave., Newark, N. J.
Click Chem. Corp., 601 Columbus Ave., Mount Vernon, N. Y.
Cuprinol Div., Simsbury, Conn.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Hilton-Davis Chem. Co., 2235 Langdon Farm Rd., Cincinnati
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Mallinckrodt Chemical Wks., St. Louis 7
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Oronite Chem. Co., 200 Bush St., San Francisco
Puro Co., 2801 Locust St., St. Louis
Prior Chemical Corp., 420 Lexington Ave., N. Y.
Rohm & Haas Co., Washington Sq., Phila. 5
Sindar Corp., 321 W. 44th St., N. Y. 36
R. T. Vanderbilt Co., 230 Park Ave., N. Y. 17
Witco Chem. Co., 122 E. 42nd St., N. Y. 17
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

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American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Dodge & Olcott, Inc., Varick St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington
Felton Chem. Co., 603 Johnson Ave., Bklyn. 37
Fritzsche Bros., 76 9th Ave., N. Y. 11
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y. 13
National Aniline Div., 40 Rector St., N. Y.
Roubechez, Inc., 8 E. 12th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y. 13

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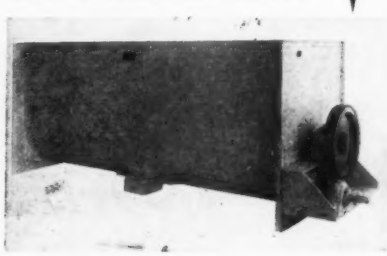
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Ertel Engineering Corp., West Front St., Kingston, N. Y.
Houchin Machinery Co., Hawthorne, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Mixing Equipment Co., Inc., 167 Mt. Read Blvd., Rochester, N. Y.
Morehouse-Cowles, Inc., 1150 San Fernando Rd., Los Angeles
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Rapids Machy. Co., Marion, Ia.
Chas. Ross & Son Co., 148-156 Classon Ave., Bklyn.
Vickers Ltd., Westminster, London, Eng.
Young Machy. Co., Muncy, Pa.

MIXING MACHINERY (Change Can Mixers)

Arthur Colton Co., 3431 E. Lafayette, Detroit
Conn. & Co., 9 S Marion St., Warren, Pa.
J. H. Day Co., Cincinnati 12
H. Hockmeyer & Co., 341 Coster St., N. Y.
Houchin Machy. Co., Hawthorne, N. J.
Kent Machine Works, 39 Gold St., Brooklyn
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Read Standard Div., York, Pa.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Chas Ross & Son Co., 148 Classon Ave., Brooklyn
Troy Engine & Machine Co., Troy, Pa.

MIXING MACHINERY (General)

Alsop Engineering Corp., Milldale, Conn.
Brower Mfg. Co., 411 N. 3rd St., Quincy, Ill.
Arthur Colton Co., 3431 E. Lafayette, Detroit
Conn. & Co., 9 S. Marion St., Warren, Pa.
Craddock Equipment Co., 1507 A. St., Wilmington, Del.
J. H. Day Co., Cincinnati 12
Eastern Industries, Inc., Hamden 14, Conn.
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Gifford-Wood Co., 420 Lexington Ave., N. Y. C.
Girdler Process Equipment Div., Louisville, Ky.
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark, N. J.
Kent Machine Works, 39 Gold St., Brooklyn
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Mixing Equipment Co., 167 Mt. Read Blvd., Rochester, N. Y.
Mojonnier Associates, 9151 Fullerton Ave., Franklin Park, Ill.
Munson Mill Machy. Co., 210 Seward Ave., Utica, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Paterson-Kelley Co., East Stroudsburg, Pa.
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Rapids Machy. Co., Marion, Ia.
Read Standard Division, York, Pa.
Chas. Ross & Son Co., 148 Classon Ave., Brooklyn
Raymond Pulverizer Div., 1314 N. Branch St., Chicago
Scottdel, Inc., Swanton, Ohio
Henry Simon Ltd., Cheadle Heath, Stockport, England
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Dorchester, Moston 22, Mass.
U. S. Stoneware Co., Akron 9, O.
Young Machy. Co., Muncy, Pa.

MIXING MACHINERY (Dry Products)

Abbe Engineering Co., Little Falls, N. J.
Brower Mfg. Co., 411 N. 3rd St., Quincy, Ill.
Arthur Colton Co., 3431 E. Lafayette, Detroit
Craddock Equipment Co., 1507 A St., Wilmington, Dela.
Conn. & Co., 9 S. Marion St., Warren, Pa.
J. H. Day Co., Cincinnati 12
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark, N. J.
International Engineering, P. O. Box 973, Dayton 1, O.
J. H. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizo, Italy
Munson Mill Machy. Co., 210 Seward Ave., Utica, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Paterson-Kelley Co., East Stroudsburg, Pa.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Rapids Machy. Co., Marion, Ia.
Robinson Mfg. Co., Muncy, Pa.
Scottdel, Inc., Swanton, Ohio
Henry Simon Ltd., Cheadle Heath, Stockport, England.
Sprout, Waldron & Co., Muncy, Pa.
F. J. Stokes Machine Co., 5500 Tabor Rd., Phila.
Struthers-Wells Corp., Warren, Pa.
Sturtevant Mill Co., Dorchester, Boston 22, Mass.
U. S. Stoneware Co., Akron 9, O.
Young Machy Co., Muncy, Pa.

MONOCHLOROBENZENE (see listings under Paradichlorobenzene)

MONOETHANOLAMINE (see listings under Ethanolamines)

MOSQUITO LARVACIDES

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Chipman Chemical Co., Bound Brook, N. J.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Corp., Huntington, Ind.
Fairfield Chem. Div., 441 Lexington Ave., N. Y.
Geigy Agri. Chems., Ardsley, N. Y.
General Chemical Div., 40 Rector St., N. Y.
R. M. Hollingshead Corp., Camden, N. J.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
James Huggins & Son, 239 Medford St., Malden, Mass.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Michigan Chem. Corp., St. Louis, Mich.
S. B. Penick & Co., 100 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kansas City, Mo.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Velsicol Corp., 330 E. Grand Ave., Chicago
York Chem. Co., 23 Dean St., Bklyn. 1
Zenith Drug, Inc. 1 Vesey St., Newark, N. J.

MOTH CAKES AND CRYSTALS (see Deodorizing Blocks)

MOTHPROOFING COMPOUNDS

Antara Chemicals, 435 Hudson St., N. Y. 14
Baird & McGuire, Inc., Holbrook, Mass.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chemo Puro Mfg. Co., 150 Doremus Ave., Newark, N. J.
Click Chemical Corp., Columbus & Carleton Aves., Mt. Vernon, N. Y.
Dow Chemical Co., Midland, Mich.
Eagle Soap Corp., Huntington, Ind.
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agri. Chems., Ardsley, N. Y.
James Good Co., 2107 Susquehanna Ave., Philadelphia
R. H. Hollingshead Corp., Camden, N. J.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
Hysan Prods. Co., 936 W. 38th Pl., Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2, N. J.
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Monsanto Chemical Co., St. Louis 24, Mo.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Per-Mo Products Co., 1716 E. 36th St., Kansas City, Mo.
Plastics & Coal Chemicals Div., 40 Rector St., N. Y. C.
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Puro Co., 2801 Locust St., St. Louis
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Solvay Process Div., 61 Broadway, N. Y.
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn. 6
Sprayway, Inc., 7638 Vincennes Ave., Chicago
Jos. Turner & Co., Ridgefield, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

MOTTLED SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Lightfoot Co., 380 Madison Ave., N. Y. C.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago

MURIATIC ACID

Antara Chems. Div., 435 Hudson St., N. Y. 14
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington
Dow Chemical Co., Midland. Mich.
General Chemical Div., 40 Rector St., N. Y.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Hooker Chemical Corp., Niagara Falls, N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Morton Chem. Co., 110 N. Wacker Dr., Chicago 6
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Reichhold Chemicals, Inc., White Plains, N. Y.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Rumford Chem. Wks., Rumford, R. I.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wyandotte Chemicals Corp., Wyandotte, Mich.

MUSKS, ARTIFICIAL (see Aromatic Chemicals)

MYRISTYL ALCOHOL (see Fatty Alcohols)

NAPHTHA (see Solvents, Naphtha)

NAPHTHALENE

Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Neville Chemical Co., Pittsburgh
Penna. Industrial Chem. Corp., Clairton, Penna.
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Reilly Tar & Chem. Corp., Merchants Bank Bldg., Indianapolis
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Tar Residuals, Inc., 420 Lexington Ave., N. Y.
U. S. Steel Corp., Pittsburgh 30
Velsicol Corp., 330 E. Grand Ave., Chicago

NAPHTHALENE SULFONATES

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Antara Chemicals, 435 Hudson St., N. Y. 14
Atlantic Refining Co., 260 S. Broad St., Phila.
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Geigy Industrial Chems., Ardsley, N. Y.
Marchon Prods., Whitehaven, Cumberland, England.
M. Michel & Co., 90 Broad St., N. Y. 4
National Aniline & Chem. Div., 40 Rector St., N. Y.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Pennsylvania Refining Co., Butler, Pa.
L. Sonneborn Sons, 300 4th Ave., N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

NAPHTHENATES (see Copper Naphthenate)

NAPHTHENIC ACIDS (and Sulfonic Sludges)

Atlantic Refining Co., 260 Broad St., Philadelphia
Enjay Co., 15 W. 51st St., N. Y. 19
Naftone, Inc., 515 Madison Ave., N. Y. 2
Oronite Chem. Co., 200 Bush St., San Francisco
Pennsylvania Refining Co., Butler, Pa.
Robeco Chems. Inc., 25 E. 26th St., N. Y. 10
L. Sonneborn Sons, 300 4th Ave., N. Y.
Sun Oil Co., 1608 Walnut St., Phila. 3
Texas Co., 135 E. 42nd St., N. Y. 17



INDUSTRIAL and PHARMACEUTICAL CHEMICALS

•

NATURAL PRODUCTS

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OILS • WAXES

CALCIUM HYPOCHLORITE 70% GRAN.
CALCIUM HYPOCHLORITE 60% POWDER
COPPER SULFATE
LINDANE
NAPHTHALENE
NICKEL SULFATE
ORTHODICHLOROBENZENE
PARADICHLOROBENZENE

SPERMACETI WAX U.S.P.

ROBECO CHEMICALS, INC.

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NEATSFOOT OIL

Armour & Co., 1355 W. 31st St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Neatsfoot Oil Refineries Corp., Ontario & Bath Sts., Phila.
Swift & Co., Hammond, Ind.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

NICOTINE COMPOUNDS

California Spray-Chemical Corp., Richmond, Calif.
Hood River Spray Co., Hood River, Ore.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Prentiss Drug & Chem. Co., 101 W. 31 St., N. Y. 1

NITRE CAKE (Sodium Acid Sulfate)

Amer. Agricultural Chem. Co., 100 Church St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Monsanto Chemical Co., St. Louis 24, Mo.
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17

NITRIC ACID

E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Hercules Powder Co., Wilmington
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16

NITROPARAFFINS

Commercial Solvents Corp., 260 Madison Ave., N. Y. 16

N-OCTYL BICYCLOHEPTENE DICARBOXIMIDE (Insecticide Synergist)

McLaughlin Gormley King Co., 1715 5th St., SE, Minneapolis

NONYL PHENOL

Antara Chemicals, 435 Hudson St., N. Y. 14
Jefferson Chemical Co., 1121 Walker Ave., Houston, Tex.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Stepan Chem. Co., 427 W. Randolph St., Chicago

NOVELTY SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago 8
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Lightfoot Co., 380 Madison Ave., N. Y. C.
Mem Co., 67 Irving Pl., N. Y. 3
Peck's Products Co., 610 E. Clarence Ave., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.

NOZZLES FOR SPRAY SYSTEMS

Bete Fog Nozzle Co., Greenfield, Mass.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
Johnson-March Corp., 1724 Chestnut St., Phila. 3
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Monarch Mfg. Works, 3406 Miller St., Phila.
Spraying Systems Co., 3201 W. Randolph St., Bellwood, Ill.

NOZZLES, for Agricultural, Insecticide and Portable Sprayers

Bete Fog Nozzle Co., Greenfield, Mass.
Hub States Chems. & Equipment, 1255 W. Windsor St., Indianapolis
Monarch Mfg. Wks., 3406 Miller St., Phila.
Spraying Systems Co., 3201 W. Randolph St., Bellwood, Ill.

OIL HYDROGENATION PLANTS

Girdler Process Equipment Div., Louisville, Ky.
Industrial Process Engineers, 8 Lister Ave., Newark, N. J.
Project Construction Corp., 39 Broadway, N. Y. 6
Wuster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

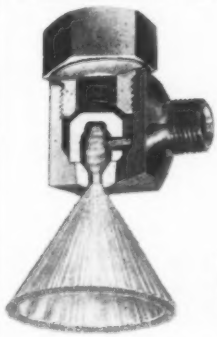
for SPRAY NOZZLES

When you need an experienced, reliable source of supply for spray nozzles, may we suggest you try Spraying Systems Co.? Specialization in the design and manufacture of spray nozzles and related equipment on our part, makes it possible to offer you a full range of nozzle types and sizes for every possible application. Our services include development work to meet your specialized processing or application needs.

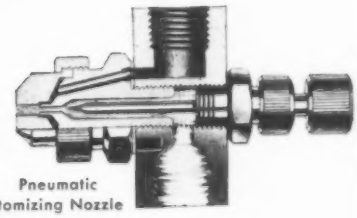
soap manufacturers

Typical Spraying Systems spray nozzles for soap manufacturing are shown here. The Whirljet Nozzle is built with a tungsten carbide whirl chamber and orifice insert for high abrasion resistance. This nozzle is recommended as a long-life unit for soap spray drying.

Spraying Systems Pneumatic Atomizing Nozzles such as shown below provide extremely fine atomization, uniform spray pattern, and exact volume control for such operations as perfume spraying.

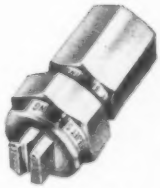


WHIRLJET
⅛ BBSSTC



Pneumatic
Atomizing Nozzle

insecticide distributors and pest control contractors



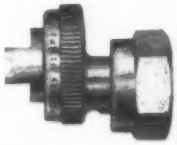
For the residual spraying of insecticides, Spraying Systems TeeJet Spray Nozzles give you the exact even distribution that makes this type of spraying effective. TeeJet Nozzles are precision made, and provide a highly uniform flat spray pattern. Orifice tips are interchangeable and are available in any capacity required.

SPRAY NOZZLE ACCESSORIES . . . wide range supplied such as line strainers, suction strainers, fittings, connectors, adjustable nozzles and hand valves.



Trigger TeeJet with Curved Extension . . . gives hand valve control in spraying. Quality built for long-life effective operation.

MulTeeJet Tip Assembly . . . this nozzle can be rotated to index to four different positions, giving four types of spray in one nozzle. Can be used with Trigger TeeJet assembly.



WRITE FOR COMPLETE INFORMATION
. . . tell us the type of spray nozzles or equipment you need.

SPRAYING SYSTEMS CO.
Engineers and Manufacturers
3266 RANDOLPH STREET • BELLWOOD, ILLINOIS (Suburb of Chicago)

SELLING!!

that is your problem,

MANUFACTURING!!

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PRIVATE FORMULA WORK

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AND INCURS NO OBLIGATION TO YOU.

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Manufacturing Chemists

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OITICICA OIL

Brazil Oiticica, Inc., 80 Broad St., New York 4
Brazilian Industrial Oils, Inc., 75 West St., N. Y.
Geo. Degen & Co., 111 Broadway, N. Y. 6
Internatio-Rotterdam, Inc., 61 Broadway, N. Y. 6
Murray Oil Prods. Co., 21 West St., N. Y.
Pacific Vegetable Oil Corp., 1145 S. 10 St., Richmond, Calif.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
G. A. Wharry & Co., 125 Broad St., N. Y.

OLEIC ACID (see Red Oil)

OLEYL ALCOHOL (see Fatty Alcohols)

OLIVE OIL AND OLIVE OIL FOOTS (Commercial)

Irving R. Boody & Co., 120 Wall St., N. Y.
Camilli, Albert & Laloue, 15 E. 48th St., N. Y. 17
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagan Corp., Public Ledger Bldg., Phila.
Leghorn Trading Co., 141 E. 44th St., N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Strohmeyer & Arpe Co., 139 Franklin Ave., N. Y. 13
Welch, Home, & Clarke Co., 1 Hudson St., N. Y. 13

OLIVE OIL SOAPS (see Castile Soaps, Textile Soaps)

OPTICAL BRIGHTENERS

American Cyanamid Co., Dyes Department, Bound Brook, N. J.
General Dyestuff Co., 435 Hudson St., N. Y.
Ciba Co., 627 Greenwich St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Industrial Chems., Ardsley, N. Y.
Hilton-Davis Chem. Co., 2235 Langdon Farm Rd., Cincinnati 13
National Aniline Div., 40 Rector St., N. Y.

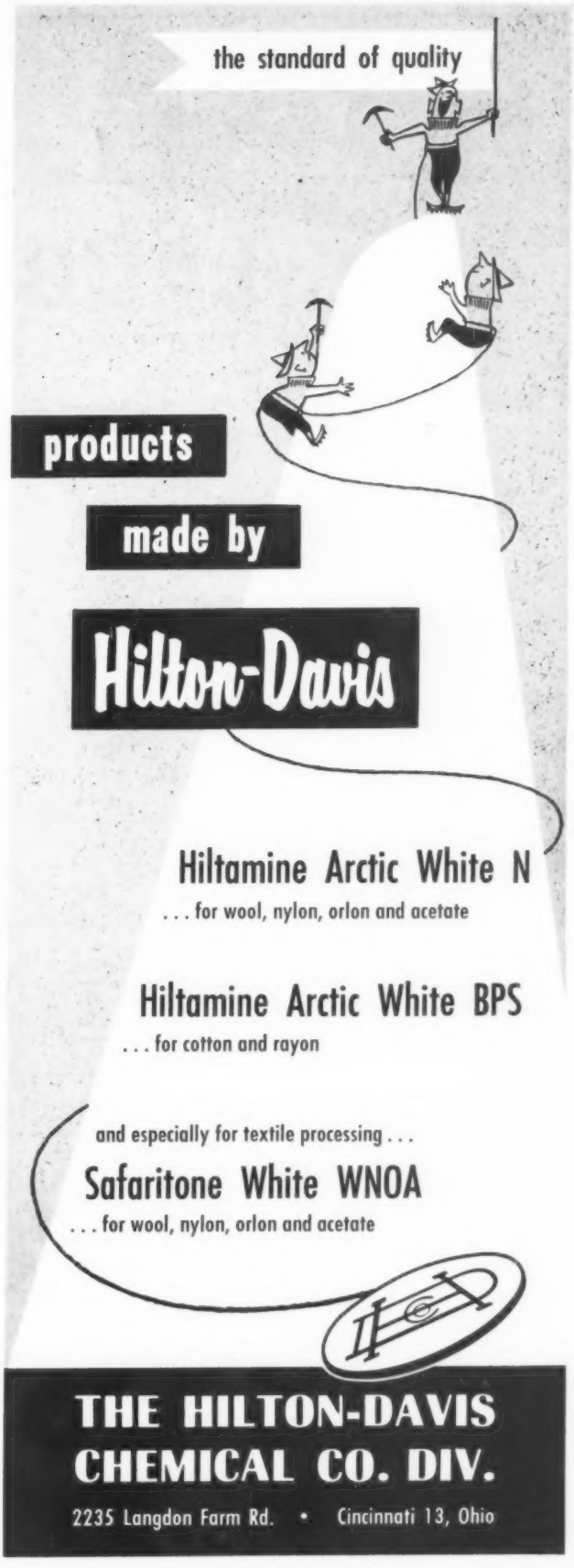
ORTHODICHLOROBENZENE (see listings under Paradichlorobenzene)

OXALIC ACID

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Chemical Corp., Niagara Falls, N. Y.
Mallinckrodt Chemical Wks., St. Louis, Mo.
Merck & Co., Rahway, N. J.
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago 6

PACKAGING (for the Trade)
(See also Aerosol Filling for the Trade)

AcePak, Inc., 7230 S. Chicago Ave., Chicago 19
Aerosol Techniques, Inc., 1730 State St. Ext., Brigeport, Conn.
Airosol Co., Inc., Neodesha, Kansas
Allied Professional Associates, High St., Attica, N. Y.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Armstrong Laboratories, 421 La Grange St., Boston
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
C. P. Baker & Co., 501 N. 11 St., Phila. 23
G. Barr & Co., 3601 S.Racine Ave., Chicago
Bixon Chem. Co., 1163 Southern Blvd., N. Y. 59
Britex Corp., 17 Lewis Wharf, Boston
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Capitol Packaging Co., 1441 Circle Ave., Forest Park, Ill.
Chase Prods. Co., 1816 St. Charles Rd., Maywood, Ill.
Chemical Enterprises, 1131 W. Devon Ave., Chicago 40
Chem. Prods. Co. of N. J., 207 Astor St., Newark, N. J.
Claire Mfg. Co., 1200 N.W. 23rd Ave., Ft. Lauderdale, Fla.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Continental Filling Corp., 123 N. Hazel, Danville, Ill.
Curley Co., Inc., 1432 N. Randolph St., Phila. 22
Dominion Prods. Inc., 10-40 44th Dr., L.I.C., N. Y.
Eveready Pressurized Prods., 1122 Belt Line St., Cleveland
Federal Packaging Corp., 12100 South Peoria St., Chicago



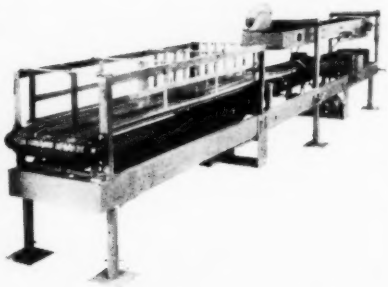
LABOR COST REDUCED....

WITH

LAUB

ENGINEERED EQUIPMENT

CASER-UNCASER SEALER



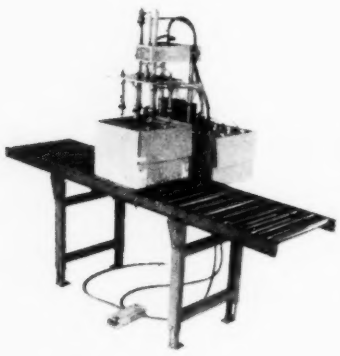
One person *unpacks* and *cases* bottles or cans *at 15 cases per minute.*

No dropping of bottles—less breakage.

Less board costs—shoulder height separator — Bottles always upright.

Labor and board savings can pay for machine in one year.

Fast "Crank Handle" changeover.



SIPHON-SIP CASE-AT-A-TIME FILLER

For Sudsing Products

Siphon-Sip is the most efficient way to pack.

No vacuum means *no suds.*

Siphon-Sip means *no drip.*

Case-at-a-Time means saving uncasing and casing labor.

Visual overflow means you *know* when all cans are full.

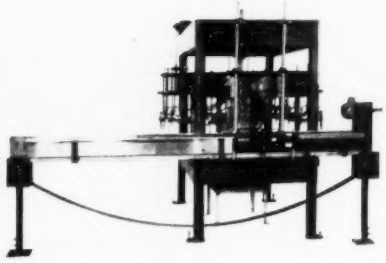
30/60 TUBE AUTOMATIC LIQUID FILLER

Features Fast-Change Product Contact Parts

Very high speed.

Overhead drive stays dry — easy washdown.

Fully automatic — *NO OPERATOR REQUIRED.*



LAUB *engineering co.*

INDUSTRIAL AND MECHANICAL ENGINEERS

244 North San Marino Avenue • San Gabriel, Calif.

PACKAGING FOR THE TRADE (Contd.)

Fluid Chem. Co., 878 Mt. Prospect Ave., Newark, N. J.
Gard Industries, Inc., 1739 Harding Rd., Northfield, Ill.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Help, Inc., 122 W. Kinzie St., Chicago
R. Hurwich Co., 1043 Hearst Ave., Berkeley, Calif.
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Iver's-Lee Co., 215 Central Ave., Newark, N. J.
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Klix Chemical Co., 551 Railroad Ave., South San Francisco, Calif.
Manufacturers Aid Co., 721 Grand St., Hoboken, N. J.
Old Empire, Inc., Mt. Prospect & Verona Aves., Newark, N. J.
Paket, Inc., 9022 S. Baltimore St., Chicago
Peerless Chem. Co., 1300-02 N. Fulton Ave., Baltimore
Peterson Filling & Packg. Co., Hegeler Lane, Danville, Ill.
Private Brands, Inc., 300 S. 3rd St., Kansas City 18, Kan.
Products Packaging, Inc., 6400 Herman Ave., Cleveland 2
Puro Co., 2801 Locust St., St. Louis 3
W. T. Rawleigh Co., Freeport, Ill.
Reily Chemical Co., Industrial Prods. Div., P.O. Box 98, New Orleans, La.
Gene Rose Co., Inc., 1637 S. Kilbourn, Chicago
Scranton Aerosol Packaging, Scranton, Pa.
Sprayon Prods., 207 E. 65 St., Cleveland
John C. Stalfort & Sons, 319 W. Pratt, Baltimore
John T. Stanley Co., 642 W. 30th St., N. Y.
Stevens Wiley Mfg. Co., 1601 W. Glenwood Ave., Phila.
Texas Aerosols, Inc., 201 Velasco St., Houston 3
Titan Chem. Industries, 3005 Huron St., Denver, Colo.
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
Western Filling Corp., 6423 Bandini Blvd., Los Angeles
Warsaw Chemical Co., Warsaw, Ind.
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

PACKAGE PRINTERS AND DESIGNERS

American Can Co., 100 Park Ave., N. Y. 17
American Colortype Co., 1151 Roscoe St., Chicago
J. L. Clark Mfg. Co., Rockford, Ill.
Container Corp. of America, 38 S. Dearborn St., Chicago
Continental Can Co., 100 E. 42nd St., N. Y. 17
Crown Cork & Seal Co., 9300 Ashton Rd., Phila.
Walter Frank Organization, 4100 Warren Ave., Hillside, Ill.
Gardner Board & Carton Co., Middletown, O.
Gaylor Container Corp., 111 N. Fourth St., St. Louis
Lehmann Printing & Lithographing Co., 300 2nd St., San Francisco
Reynolds Metal Co., Richmond, Va.
Schmidt Lithograph Co., 462 Second St., San Francisco
Specialty Papers Co., Dayton, O.
U. S. Printing & Lithograph Co., Beech St., Cincinnati

PACKAGING MACHINERY

Alsop Engineering Corp., Milldale, Conn.
Anderson Bros. Mfg. Co., 1907 Kishawaukee St., Rockford, Ill.
Arenco Machine Co., 25 W. 43rd St., N. Y.
Automatic Scale Co., Joliet, Ill.
Bartelt Engineering Co., 1900 Harrison Ave., Rockford, Ill.
Battle Creek Packaging Machines, Battle Creek, Mich.
Bell-Pak Div., Oshkosh, Wisc.
Brown Filling Machine Co., Fitchburg, Mass.
F. L. Burt Co., 571-7th St., San Francisco 3
Chisholm-Ryder Co., Hanover, Pa.
Clybourn Machine Corp., 6479 W. Avondale Ave., Chicago
Arthur Colton Co., 3431 E. Lafayette, Detroit
Consolidated Packaging Machy. Corp., 1400 West Ave., Buffalo
Crown Cork & Seal Co., Baltimore, Md.
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Exact Weight Scale Co., 538 E. Town St., Columbus, O.
J. L. Ferguson, Joliet, Ill.
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Hope Machine Co., 9400 State Rd., Phila.
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh 4, Pa.
Island Equipment Corp., 1090 E. 31st St., Hialeah, Fla.
Paul L. Karstrom Co., 1822 W. 74th St., Chicago
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Labelette Co., 216 S. Jefferson, Chicago 6
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
G. Diehl Mateer Co., Wayne, Pa.
M. R. M. Co., 191 Berry St., Bklyn.
John R. Nalbach Engineering Co., 6139 Ogden Ave., Chicago
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Packer Machinery Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., Quincy 71, Mass.
Rapids Machinery Co., Marion, Iowa
Read Standard Corp., York, Pa.

F. B. Redington Co., 112 S. Sangamon St., Chicago
Scientific Filter Co., 59 Rose St., N. Y.
Standard Conveyor Co., N. St. Paul, Minn.
Standard Knapp Div., Portland, Conn.
F. J. Stokes Machine Co., 5918 Tabor Rd., Philadelphia
Stokes & Smith Div., 4915 Summerdale Ave., Phila. 24
Stuyvesant Engineering Co., Lyndhurst, N. J.
Triangle Packaging Machy. Corp., 6643 Diversey Ave., Chicago
U. S. Automatic Box Machy. Co., Boston 31, Mass.
U. S. Bottlers Machy. Co., 4019 N. Rockwell St., Chicago
Weigh Right Automatic Scale Co., Mills Rd., Joliet, Ill.

PAILS (Wooden)

Beaver Mills, Keene, N. H.
Eagle Woodenware Mfg. Co., Hamilton, O.
Gambrinus Cooperage Works, Louisville
Impervious Package Co., Keene, N. H.
Menasha Woodenware Co., Menasha, Wis.
Richmond Cedar Works, Richmond, Va.
White Mop Wringer Co., Fultonville, N. Y.

PAILS, STEEL (Shipping Containers)

American Can Co., 100 Park Ave., N. Y.
Bennett Industries, 122 Washington St., Peotone, Ill.
Central Can Co., 2415 W. 19th St., Chicago
Continental Can Co., 100 E. 42nd St., N. Y.
Eastern Can Co., Keap St. & Kent Ave., Bklyn.
Fein's Tin Can Co., Bush Terminal, Brooklyn
Geuder, Paeschke & Frey Co., 324 N. 15th St., Milwaukee
Inland Steel Container Co., 30 W. Monroe, Chicago
Jones & Laughlin Steel Corp., 3 Gateway Center, Pittsburgh
National Steel Barrel Co., 3860 E. 91st St., Cleveland
Rheem Mfg. Co., 1701 Edgar Rd. W., Linden, N. J.
Stern Can Co., 71 Locust St., Boston 25
U. S. Steel Prods. Div., 30 Rockefeller Plaza, N. Y. 20
Vulcan Containers Ltd., Box 284, Toronto, Can.
Vulcan Containers Inc., Bellwood, Ill.
Vulcan Steel Container Co., 3315 N. 35th Ave., Birmingham, Ala.

PALLETS

Columbia Box Board Mills, Chatham, N. Y.
Ohio Boxboard Co., Rittman, O.
Waldorf Paper Prods. Co., St. Paul, Minn.

PALM KERNEL OIL

(see also Brokers and Dealers)

Balfour Guthrie & Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Leghorn Trading Corp., 141 E. 44th St., N. Y.
Pacific Vegetable Oil Corp., 1145 S. 10th St., Richmond, Calif.
Smith-Weihman Co., 15 Moore St., N. Y.
Swift & Co., Hammond, Ind.
Welch, Home, & Clarke Co., 1 Hudson St., N. Y. 13

PALM OIL

Balfour Guthrie & Co., 67 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Ridgefield, N. J.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Pacific Vegetable Oil Corp., 1145 S. 10 St., Richmond, Calif.
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Swift & Co., Hammond, Ind.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Zimmerman Alderson Carr Co., 25 Broadway, N. Y.

PALM OIL FATTY ACIDS

Armour & Co., 1355 W. 31st St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emery Industries, 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., Box 178, Newark, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Swift & Co., Hammond, Ind.
Vegetable Oil Prods., 5568 E. 61st., Los Angeles
Welch, Home, & Clarke Co., 1 Hudson St., N. Y. 13

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Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.
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Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Monsanto Chemical Co., St. Louis, Mo.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Solvay Process Div., 61 Broadway, N. Y.
Standard Chlorine Chem. Co., South Kearny, N. J.

PARADICHLOROBENZENE BLOCKS (see Deodorizing Blocks and Crystals)

PARAFFIN

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Atlantic Refining So., 260 S. Broad St., Philadelphia
Candy & Co., 2515 W. 35th St., Chicago 32
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Gulf Refining Co., Pittsburgh
Hostawax Co., 350 5th Ave., N. Y. C.
International Wax Refining Corp., E. Hawthorne Ave., Valley Stream, N. Y.
Mercantile Wax Div., 595 Madison Ave., N. Y.
Moore & Munger Co., 33 Rector St., N. Y. C.
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Frank B. Ross Co., 6-10 Ash St., Jersey City, N. J.
William H. Scheel, Inc., 38 Franklin St., Bklyn. 22
Shell Oil Co., 50 W. 50th St., N .Y. 20
Sinclair Petrochems., 630—5th Ave., N. Y.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Standard Oil Co., (Calif), 225 Bush St., San Francisco
Standard Oil Co., (Ohio), Midland Bldg., Cleveland
Sun Oil Co., 1608 Walnut St., Phila.
Texas Co., 135 E. 42nd St., N. Y.
Warwick Wax Co., 750 3rd Ave., N. Y. C.

PARAFFIN OILS

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Buffalo Sols. & Chems. Co., Box 73, Sta. B. Buffalo, 7
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Continental Oil Co., 1270 Ave. of Americas. N. Y. 20
Dixie Sols. & Chems. Co., Dixie Highway, Louisville, Ky.
Eastern States Pet. & Chem. Corp., Houston 12, Tex.
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Gulf Refining Co., Pittsburgh
Hoosier Sols. & Chems. Co., 1650 Luett Ave., Indianapolis, Ind.
International Wax Ref. Corp., E. Hawthorne Ave., Valley Stream, N. Y.
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Sinclair Petrochems., 630—5th Ave., N. Y.
Skelly Oil Co., Skelly Bldg., Kansas City, Mo.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y.
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Standard Oil Co., (Calif.) 225 Bush St., San Francisco
Standard Oil Co., (Ohio), Midland Bldg., Cincinnati
Sun Oil Co., 1608 Walnut St., Phila. 3
Texas Sols. & Chems. Co., 8501 Market St., Houston, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Warwick Wax Co., 750 3rd Ave., N. Y. C.
Western Sols. & Chems. Co., 2940 Stafford Ave., S.W., Grand Rapids
Wisconsin Sols. & Chems. Co., 1719 S. 83rd St., Milwaukee 14
Wolverine Sols. & Chems. Co., 2940 Stafford Ave., S.W., Grand Rapids

PARAHYDROXYBENZOIC ACID (Preservative)

Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17

PARIS GREEN

Dow Chemical Co., Midland, Mich.
General Chemical Div., 40 Rector St., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.

PARATHION

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. C.
American Potash & Chem. Corp., 3100 E. 26th St., Los Angeles
Chemagro Corp., 437 5th Ave., N. Y. 16
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Monsanto Chemical Co., St. Louis 24, Mo.
Stauffer Chemical Co., 380 Lexington Ave., N. Y.
Thompson-Hayward Chemical Co., 2915 SW Blvd., Kansas City, Mo.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago

PASTES (see Adhesives)

PATCHOULI OIL (see Essential Oils)

PEANUT OIL

Baker Caster Oil Co., 40 Ave. A, Bayonne, N. J.
Darling & Co., 4201 S. Ashland Ave., Chicago 9
Geo. Degen & Co., 111 Broadway, N. Y. 6
Eastern Industries, Inc., Ridgefield, N. J.
Falk & Co., Pittsburgh 30
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Pacific Vegetable Oil Corp., 1145 S. 10th St., Richmond, Calif.
Pierce Oil Prods. Co., East Rochester, N. Y.
J. H. Redding, Inc., 17 Battery Place, N .Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Sergeant Chem. Co., 7 Dey St., N. Y.
Southern Cotton Oil Co., Produce Exchange, N. Y.
Swift & Co., Hammond, Ind.
Welch, Holme, & Clarke Co., 1 Hudson St., N. Y. 13

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Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Swift & Co., Hammond, Ind.
Jos. Turner & Co., Ridgefield, N. J.
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.

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PENNYROYAL OIL (see Essential Oils)

PENTACHLOROPHENOL

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Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
Geigy Chemical Corp., Ardsley, N. Y.
Hercules Powder Co., Wilmington, Del.
Monsanto Chemical Co., St. Louis 24, Mo.
Neville Chemical Co., Pittsburgh 25
Reichhold Chemicals, Inc., White Plains, N. Y.
Reilly Tar & Chemical Corp., Merchants Bank Bldg., Indianapolis, Ind.

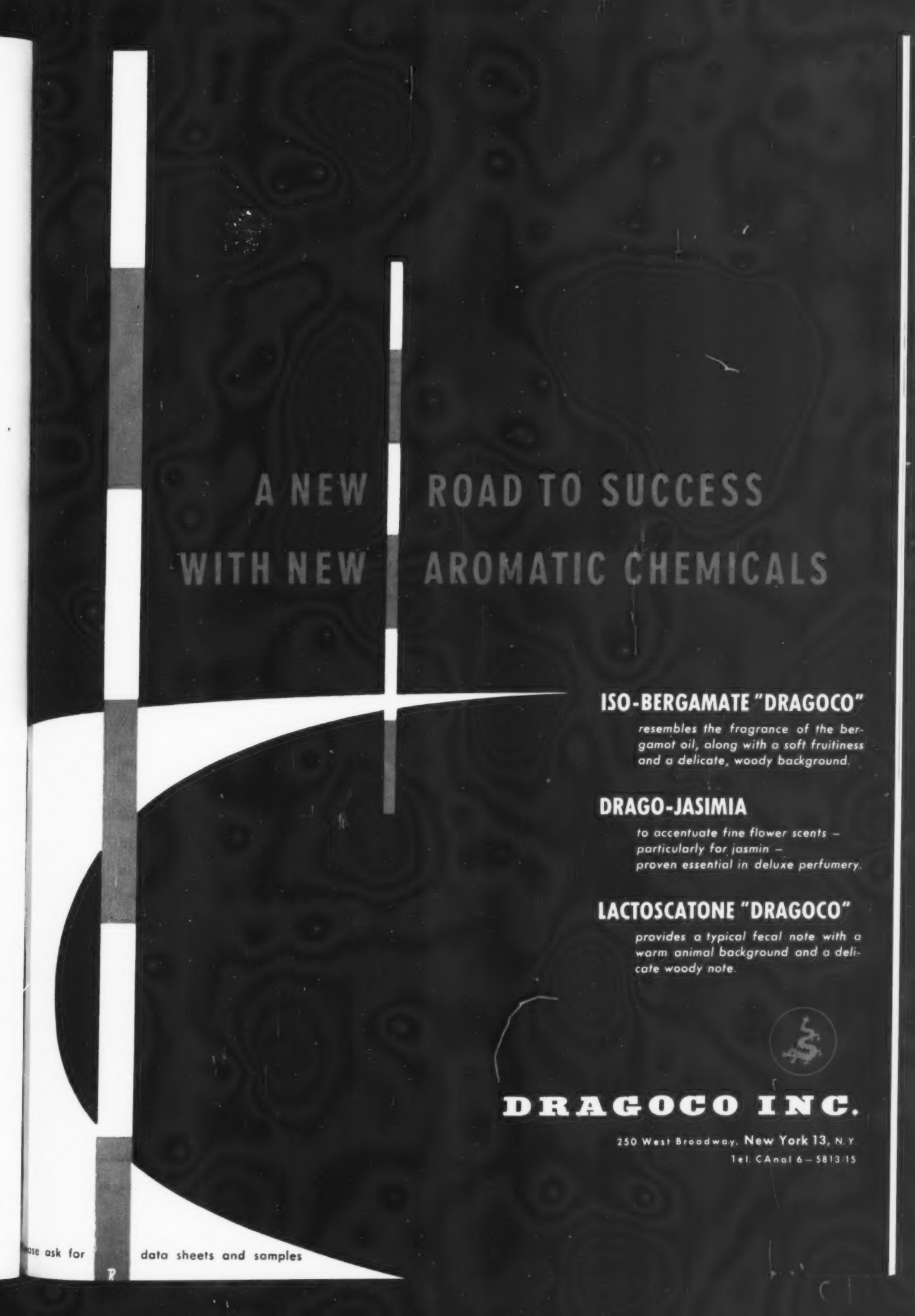
PERFUME DISSEMINATORS

Airkem, Inc., 241 E. 44 St., N. Y. C.
Chem. Service of Balto., Howard & West Sts., Balto.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Place, Chicago
Keystone Scent Conditioner Corp., 315 N. 12th St., Phila.
Robinson Clay Prod. Co., 101 Park Ave., N. Y.
Scent Flo Dist. Co., 7227 Hamilton Ave., Pittsburgh 8
Star Porcelain Co., 33 Muirhead Ave., Trenton ,N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
Universal Electric Products, 2201 Regent St., Madison 5, Wisc.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Williams Chem. Co., 487 Broadway, N. Y. 13

PEPPERMINT OIL (see Essential Oils)

PERFUMING COMPOUNDS

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Alpine Aromatics, Inc., 398 Main St., Metuchen, N. J.
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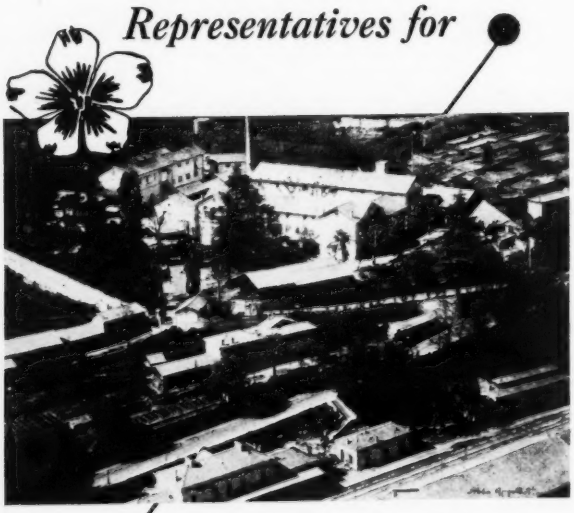
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W. J. Bush & Co., 137 Boston Post Rd., Cos Cob, Conn.
Charabot & Co., 114 E. 25th St., N. Y.
Antoine Chiris Co, 220 E. 23rd St., N. Y.
Pierre Coutin Associates, 118 E. 28th St., N. Y.
Gerard J. Danco Inc., Corp., 5 E. 19th St., N. Y. C.
De Laire, Inc., 240 W. 30th St., N. Y.
Descollonges, Inc., 160 5th Ave., N. Y. 10
Dodge & Olcott, Inc., 180 Varick St, N. Y.
Dow Chemicals Co., Midland, Mich.
Dragoco, Inc., 250 W. Broadway, N. Y. 13
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Eastman Chemical Prods. Co., Kingsport, Tenn.
Felton Chemical Co., 603 Johnson Ave, Brooklyn, N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Flam-Haft Laboratories, 8 E. 12 St., N. Y. 3
Fleuroma, Inc., 38 W. 21st St., N. Y. 10
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fries & Fries, Inc, 110 E. 70th St., Cincinnati
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
Gunning & Gunning, 305 E. 46th St., N. Y.
Heine & Co., 601 W. 26th St., N.Y. 1
D. W. Hutchinson & Co., 700 S. Columbus Ave., Mt. Vernon, N. Y.
Lautier Fils, 321 Fifth Ave., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Debrosses St., N. Y.
N. Y. Aromatics Corp., High Bridge, N. J.
Neumann-Buslee & Wolfe, 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 100 Church St., N. Y.
Perfumery Associates, Inc., 160 E. 56th St., N. Y.
Perry Bros, Inc., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Wks., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz,, Inc., 667 Washington St., N. Y.
Polarome Co., 73 Sullivan St., N. Y. C.
Reynaud, Lt., 355 W. 52nd St., N. Y. 19

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Roubechez, Inc., 8 E. 12th St., N. Y. 3
Roure-Dupont, Inc., 366 Madison Ave., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Edwin Seebach Co., 912 Broadway, N. Y.
Seeley & Co., Nyack, N. Y.
Standard Aromatics, Inc., 88 University Pl., N. Y. C.
Snyfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Products Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y.
Van Dyk & Co., Main & William Sts., Belleville, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Aromatics, 26 Verona Ave., Newark, N. J.

PEROXIDE (see Hydrogen Peroxide)

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Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
Magie Bros. Oil Co., 9101 Fullerton Ave., Franklin Park, Ill.
Mercantile Wax. Div., 595 Madison Ave., N. Y.
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Pennsylvania Refining Co., Butler, Pa.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Sinclair Petrochems., 630 Fifth Ave., N. Y.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Standard Oil Co., (Calif.), 225 Bush St., San Francisco
Standard Oil Co., (N. J.), 26 Broadway, N. Y.
Warwick Wax Co., 750 3rd Ave., N. Y. C.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

PETROLEUM BASE OILS (see Insecticide Base Oils)

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Atlantic Refining Co., 260 S. Broad St., Philadelphia
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
Enjay Co., 15 W. 51st St., N. Y.
M. Michel & Co., 90 Broad St., N. Y. 4
Oronite Chem. Co., 200 Bush St., San Francisco
Pennotex Oil Corp., 29 Broadway, N. Y. C.
Pennsylvania Refining Co., Butler, Pa.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Sinclair Petrochems., 600 5th Ave., N. Y. 20
L. Sonneborn Sons, 300 4th Ave. N. Y.
Stepan Chem. Co., 427 W. Randolph St., Chicago
Sun Oil Co., 1608 Walnut St., Phila.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

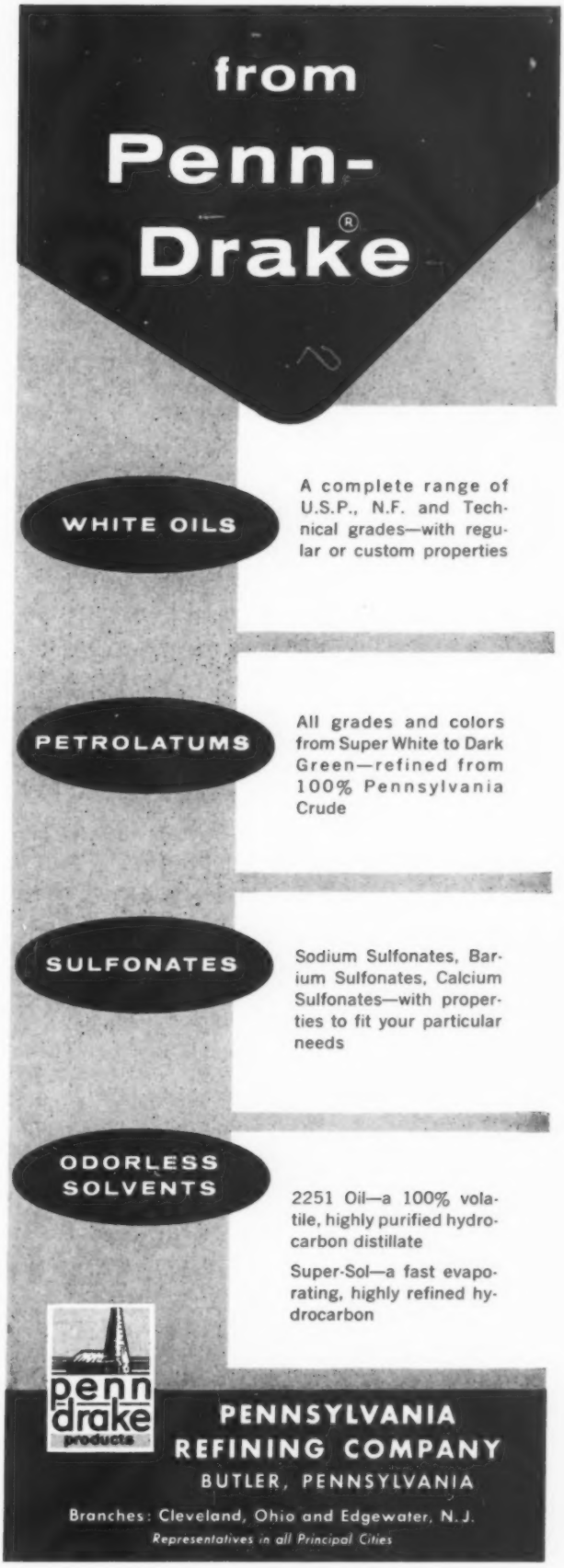
PHENOL (Carbolic Acid)

Dow Chemical Co., Midland, Mich.
Hercules Powder Co., Wilmington, Del.
Hooker Chem. Corp., N. Tonawanda, N. Y.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chemical Co., St. Louis 24, Mo.
Oronite Chem. Co., 200 Bush St., San Francisco
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Reichhold Chemicals, Inc., White Plains, N. Y.
Reilly Tar & Chem. Corp., Merchants Bank Bldg., Indianapolis
Riches-Nelson, Inc., 342 Madison Ave., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
U. S. Steel Corp., Pittsburgh 30

PHENOL-COEFFICIENT DETERMINATIONS (see Laboratories, Testing)

PHENOL, NONYL (see Nonyl Phenol)

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General Chem. Div., 40 Rector St., N. Y. 6
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Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Riches-Nelson, Inc., 342 Madison Ave., N. Y.
Rumford Chem. Wks., Rumford, R. I.
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.

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John Opitz, 50-14—39th St., Long Island City, N. Y.
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American Turpentine Farmers Association, Valdosta, Ga.
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Buffalo Solvents & Chem. Corp., P. O. #73, Station B, Buffalo
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago
Continental Turp. & Rosin Corp., Laurel, Miss.
Dixie Pine Prods. Co., Hattiesburg, Miss.
Dixie Solvents & Chems. Co., Dixie Highway, Louisville
Glidden Co., Jacksonville, Fla.
Gulf Naval Stores Supply Co., Whitney Bldg., New Orleans
Hercules Powder Co., Wilmington, Del.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. C.
Hoosier Solvents & Chems. Corp., 1650 Luett St., Indianapolis
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Missouri Solvents & Chems. Co., 419 DeSoto, St. Louis
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Phoenix Naval Stores Co., Gulfport, Miss.
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Texas Solvents & Chem. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chem. Corp., 1719 S. 83rd St., Milwaukee
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wolverine Solv. & Chems. Co., 2940 Stafford Ave., S.W., Grand Rapids

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PINE SCRUB SOAPS (see Floor Scrub Soaps)

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Rempe Co., 340 N .Sacramento Blvd., Chicago
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Fairfield Chem. Div., 441 Lexington Ave., N. Y.

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E. I. du Pont de Nemours & Co., Wilmington, Del.
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Hatco Chem. Co., Fords, N. J.
Hercules Powder Co., Wilmington, Del.
Kolker Chem. Corp., 600 Doremus Ave., Newark 5, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Monsanto Chemical Co., St. Louis 24, Mo.
National Starch Prods. 750 Third Ave., N. Y. 17
Ohio-Apex Div., 161 E. 42nd St., N. Y. C.
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6

PLODDERS

Houchin Machinery Co., Hawthorne, N. J.
J. M. Lehmann Co., Lyndhurst, N. J.
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
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Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th and Harrison Sts., Pittsburgh
Sharp Bros., 201 Orient St., Bayone, N. J. (Cutters)
Henry Simon Ltd., Cheadle Heath, Stockport, England

POISONED SEEDS (Poison Grain)

Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 207 S. Wolfe St., Baltimore, Md.
Hysan Products Co., 936 W. 38th Place, Chicago
D. S. Lesnever & Son, 213 Summer St., Lynn, Mas.
O. E. Linck Co., 51 James St., Montclair, N. J.
Sennewald Drug Co., 2723 Chouteau Ave., St. Louis
W. R. Sweeney, Salisbury, Mo.
York Chem. Co., 23 Dean St., Bklyn. 1

POLISHES, FURNITURE, AUTO, ETC.

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
Baird & McGuire, Inc., Holbrook, Mass.
C. P. Baker & Co., 501 N. 11th St., Phila. 23
Bilco Chemical Co., 607 DeGraw St., Bklyn.
Boston Chemical Industries, 64 E. Brookline St., Boston
Brilco Labs., 1553—63rd St., Bklyn. 19
Buckingham Wax Corp., Borden Ave., and Var Dam St., L. I. City, N. Y.
Burnishine Prod. Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Butcher Polish Co., 183 Commercial St., Malden, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Corp., Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Franklin Research Co., 5134 Lancaster Ave., Phila.
Frontier Chem. Prods., 119 E. Soper St., St. Louis
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Star Polish Mfg. Co., 400 E. 10th St., N. Kansas City, Mo.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Gulf Oil Corp., Pittsburgh 30, Pa.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
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Hysan Products Products Co., 936 W. 38th Pl., Chicago
S. C. Johnson & Son, 1525 Howe Ave., Racine, Wisc.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
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Majestic Wax Co., 1600 Wynkoop St., Denver
Maloney Chem. Co., Green Bay, Wis.
Masury-Young Co., 76 Roland St., Boston
Midland Labs., Dubuque, Ia.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
Oil Specialties & Refining Co., 18 Bridge St., Bklyn.
Old Empire, Inc., Mt. Prospect & Verona Aves., Newark, N. J.
Perrow Chem. Co., Hurt, Va.
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Puro Co., 2801 Locust St., St. Louis 3
Sanders Chem. Co., 2205 N. American St., Phila. 33
I. Schneid, Inc., 765 Trabert Ave., N.W., Atlanta, Ga.
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John C. Stalfort & Sons, 319 W. Pratt St., Baltimore
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Standard Oil Co., (Ohio), Midland Bldg., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
H. F. Staples Co., Medford, Mass.
Surety Laboratories, 3946 Olive St., St. Louis 8
Tesco Chemicals, Inc., Atlanta 5, Ga.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1003 S. California Ave., Chicago 12
Vestal, Inc., 4963 Manchester St., St. Louis 10
Victory Chem. Co., 148 Fairmont Ave., Phila.
Warsaw Chem. Co., Warsaw, Ind.
T. F. Washburn Co., 2244 Elston Ave., Chicago
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Windsor Wax Co., Inc., 611 Newark St., Hoboken, N. J.

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Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Click Chem. Corp., 601 S. Columbus Ave., Mount Vernon, N. Y.
Davies-Young Soap Co., Dayton, O.
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R. M. Hollingshead Corp., Camden, N. J.
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Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
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New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Noxon, Inc., 812 Jersey Ave., Jersey City, N. J.
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U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

POLYETHYLENE

Bakelite Co., Div., Union Carbide Corp., 30 E. 42nd St., N. Y. 17
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastman Chem. Prods., Kingsport, Tenn.
Hercules Powder Co., Wilmington
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chemical Co., Springfield 2, Mass.

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Semet-Solvay Petrochemical Div., 40 Rector St., N. Y. 6
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16

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Eastman Chem. Prods., Kingsport, Tenn.
Semet-Solvay Petrochemical Div., 40 Rector St., N. Y. 6

POLYETHYLENE BOTTLES AND JARS (see Bottles, Plastic)

POLYETHYLENE GLYCOLS

Dow Chem. Co., Midland, Mich.
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Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Wyandotte Chemicals Corp., Wyandotte, Mich.

POLYETHYLENE TUBES (see Tubes and Tubing)

POLYVINYLPYRROLIDONE (PVP)

General Aniline & Flm Corp., 435 Hudson St., N. Y. 14

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Antara Chemicals, 435 Hudson St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington
General Aniline & Film Corp., 435 Hudson St., N. Y.
Monsanto Chem. Co., Springfield, Mass.
Morton Chem. Co., 110 N. Wacker Dr., Chicago 6
National Starch Prods., Inc., 750 3rd Ave., N. Y. 17
Polyvinyl Chemicals, Inc., 26 Howley St., Peabody, Mass.
Reichhold Chemicals, Inc., White Plains, N. Y.
Semet-Solvay Petrochemical Div., 40 Rector St., N. Y.
Shanco Plastics & Chemicals, Inc., 2 Mile Creek Rd., Tonawanda, N. Y.
UBS Chem. Corp., 491 Main St., Cambridge, Mass.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Velsicol Chem. Corp., 330 E. Grand Ave., Chicago

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Armour & Co., 1355 W. 31st. St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Britex Corp., 17 Lewis Wharf, Boston
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Clifton Chemical Co., 150 Nassau St., N. Y. C.
Colgate-Palmolive Co., 300 Park Ave., N. Y.
Davies-Young Soap Co., Dayton, Ohio
Eagle Soap Corp., Huntington, Ind.
Essential Chemicals, 5906 N. Port Washington Rd., Milwaukee
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place, Chicago
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Kranich Soap Co., 54 Richards St., Brooklyn
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Midland Labs., Dubuque, Ia.
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National Chem. Labs., 825 Lombard St., Phila.
National Milling & Chemical Co., 4601 Flat Rock Rd., Phila. 27
Nopco Chemical Co., 60 Park Pl., Newark, N. J.
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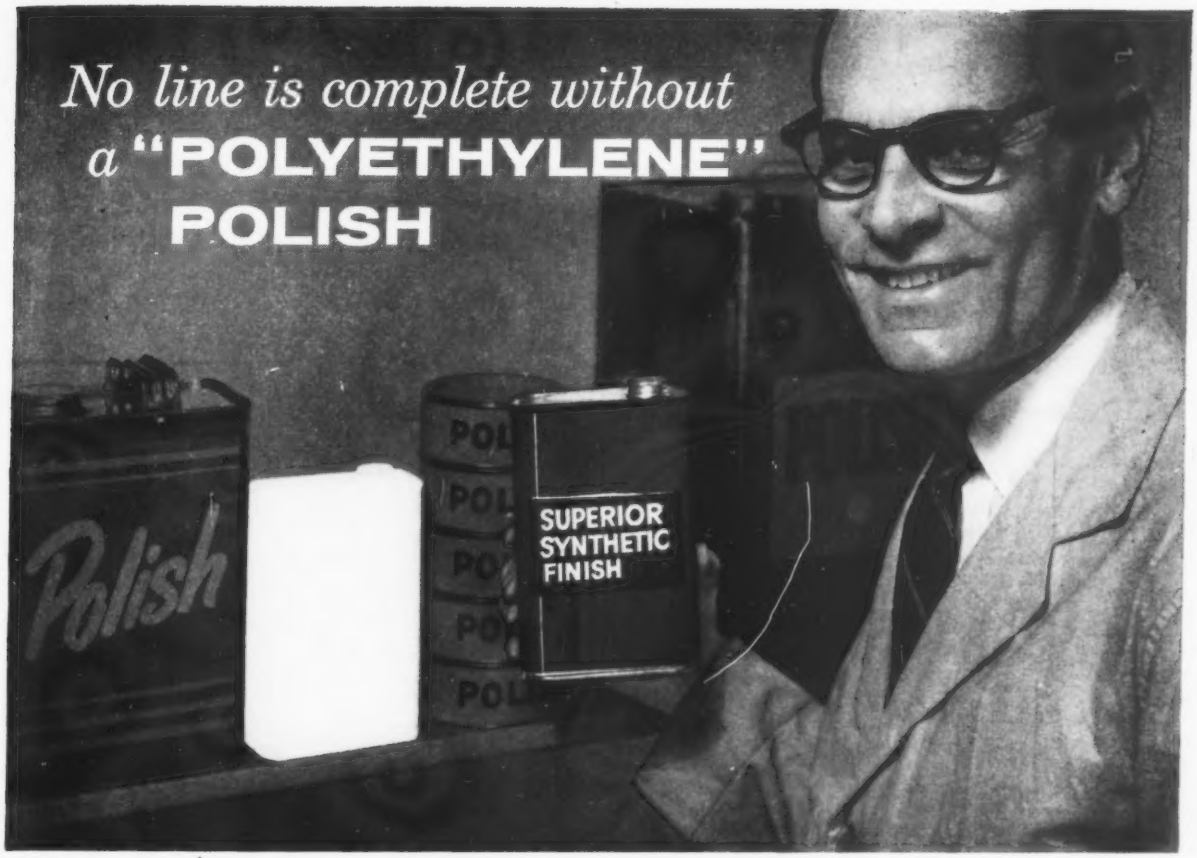
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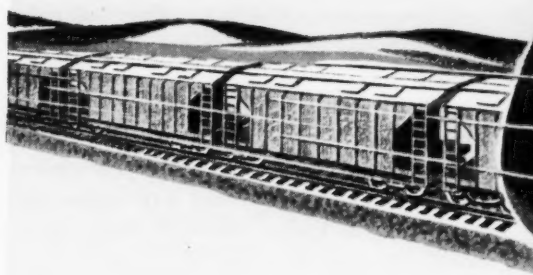
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Perrow Chem. Co., Hurt, Va.
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis 3
Reily Chemical Co., Industrial Prods. Div., P.O. Box 98, New Orleans, La.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
I. Schneid, Inc., 765 Trabert Ave., N. W. Atlanta, Ga.
John T. Stanley Co., 642 W. 30th St., N. Y.
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
Swift & Co., Chicago 9
Thompson-Hayward Chemical Co., 2915 S.W. Blvd., Kansas City
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Valley Prods. Co., 384 E. Brooks Ave., Memphis 9, Tenn.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Wolf Soap Co., 254 Sheffield Ave., Bklyn.

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American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, 435 Hudson St., N. Y. 14
Columbia-Southern Chemicals, Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hooker Chemical Corp., Union St., Niagara, Falls, N. Y.
International Min. & Chem. Corp., Old Orchard Rd., Skokie, Ill.
Monsanto Chemical Co., St. Louis 24, Mo.
Jefferson Chem. Co., 1121 Walker Ave., Houston, Texas
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Solvay Process Div., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.

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American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Chemical Corp., Niagara Falls, N. Y.
International Minerals & Chems. Corp., Old Orchard Rd., Skokie, Ill.
Merck & Co., Rahway, N. J.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Solvay Process Div., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

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J. T. Baker Chem. Co., Phillipsburg, N. J.
Becco Chemical Div., Buffalo 7, N. Y.
Merck & Co., Rahway, N. J.
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Jos. Turner & Co., Ridgefield, N. J.

POTASSIUM PHOSPHATES

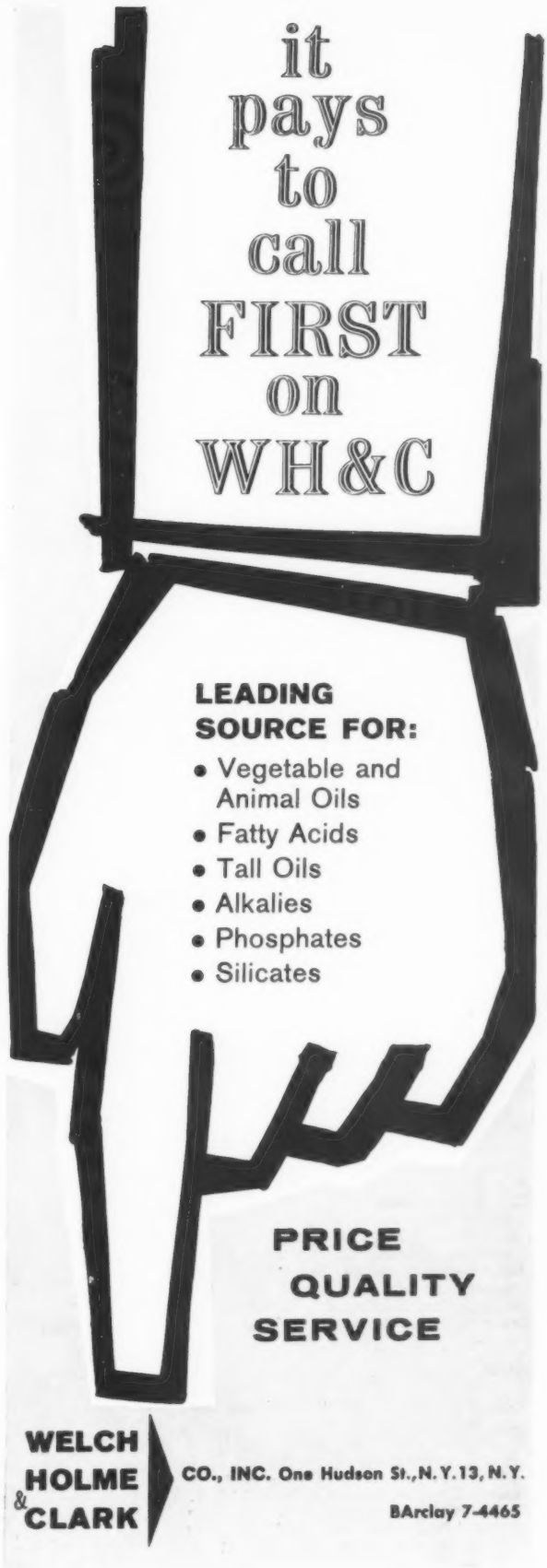
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Joliet, Ill.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17

POTASSIUM SILICATE

Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

POTASSIUM TETRABORATE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
U. S. Borax & Chem. Corp., 50 Rockefeller Plaza, N. Y.



POURING SPOUTS see Can Spouts)

POWDERED SOAP (see Soap, Powdered)

PREMIUMS

Anchor Hocking Glass Corp., Lancaster, O.
Charles Brand Novelty Corp., 154 W. 27th St., N. Y. 1
Federal Tool Corp., 3600 W. Pratt Blvd., Chicago
Goody Mfg. Co., 15 E. 22nd St., N. Y. (novelties)
Hazel-Atlas Co., Wheeling, W. Va., (glassware)
Holgate Co., Kane, Pa., (woodenware Toys)
Keystone Processed Prods. Co., 683 Broadway, N. Y.

PRESSES (Automatic Soap)

Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Cincinnati 1
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)

PRESSES (Foot and Hand Lever for Soap and Para Cakes)

Houchin Machinery Co., Hawthorne, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Mojonnier Assoc. Div., 9151 Fullerton Ave., Franklin Park, Ill.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Henry Simon Ltd., Cheadle Heath, Stockport, England
F. J. Stokes Mach. Co., Philadelphia, Pa.

PRESSES (Tablet)

American Roland Corp., 16 Hudson St., N. Y. 13
Arthur Colton Co., 3431 E. Lafayette Ave., Detroit 7
KUX Machine Co., 49 Belvidere Rd., Glen Rock, N. J.
F. J. Stokes Co., 5918 Tabor Rd., Phila.
Swan Machine Co., 320 Fifth Ave., N. Y.

PRIVATE BRAND FORMULATIONS (see listings under individual headings)

PRIVATE LABEL PACKAGING, FILLING (see Contract Packaging; Packaging for the trade)

PROPELLANTS (see Aerosol Propellants)

PROPORTIONERS, SOAP AND DETERGENT (see Soap Solutionizing Devices)

PROTECTIVE HAND CREAMS (see Hand Creams, Protective)

PROPYLENE GLYCOL

Amsco Sols. & Chems. Co., 4619 Reading Rd., Cincinnati
Buffalo Solvs. & Chems. Co., Box 73, Sta. B, Buffalo, N. Y.
Central Sols. & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Sols. & Chems. Co., Dixie Highway, Louisville
Dow Chemical Co., Midland, Mich.
Hoosier Sols. & Chems. Co., 1650 Luett Ave., Indianapolis, Ind.
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Texas Sols. & Chems. Co., Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Sols. & Chems. Co., 1719 S. St., Milwaukee
Wolverine Sols. & Chems. Co., 2940 Stafford Ave., SW, Grand Rapids

PUMICE

California Industrial Minerals Co., Friant, Calif.
Chas B. Crystal Co., 53 Park Pl., N. Y.
Pacific Coast Pumice Co., Bishop, Calif.
James J. Rhodes & Co., 157 W. Hubbard St., Chicago
Wm. R. Rogers, 80 Park St., Beverly, Mass.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Tamms Industries, Inc., 228 N. 6th St., Phila.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Whittaker, Clark & Daniels, 100 Church St., N. Y.

PUMPS (Barrel and Drum Dispensing)

Blackmer Pump Co., Century Ave., SW, Grand Rapids, Mich.
Charles Prods. Co., Gyman-Petro Bldg., Hutchinson, Kansas
Eco Engineering Co., 12 New York Ave., Newark, N. J.
Force-Flo, Inc., Box 2442 E. Cleveland, O.
Gray, Inc., 60-11th Ave., NE, Minneapolis
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
Manton-Gaulin Mfg. Co., Everett, Mass.
Multi-Meter Corp., 1041 Custer Dr., Toledo, O.

PUMPS (Heavy Duty)

Aldrich Pump Co., Pine St., Allentown, Pa.
Aurora Pump Division, Aurora, Ill.
Carver Pump Co., Muscatine, Iowa
Dorr-Oliver, Inc., Stamford, Conn.
Easy Industries, 210 N. Racine Ave., Chicago
Manton-Gaulin Mfg. Co., Everett, Mass.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Proportioneers, Inc., Harris Ave., Providence, R. I.
Robbins & Myers, Inc., Lagonda Ave., Springfield, O.
Warren Pumps, Inc., Warren, Mass.
Viking Pump Co., Cedar Falls, Iowa
Worthington Corp., Harrison, N. J.

PYRETHRUM EXTRACT

Fairfield Chem. Div., 441 Lexington Ave., N. Y.
McLaughlin, Gormley, King Co., 1715 Fifth St., S.E., Minneapolis
S. B. Penick & Co., 100 Church St., N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

PYRETHRUM FLOWERS AND POWDER

Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
California Spray-Chemical Corp., Richmond, Calif.
Fairfield Chem. Div., 441 Lexington Ave., N. Y.
McLaughlin, Gormley, King Co., 1715 Fifth St., S.E., Minneapolis
S. B. Penick & Co., 100 Church St., N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

PYRETHRUM POWDER (Insect Powder)

Fairfield Chem. Div., 441 Lexington Ave., N. Y.
McLaughlin, Gormley, King Co., 1715 Fifth St., S.E., Minneapolis
S. B. Penick & Co., 100 Church St., N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

PYROPHYLLITE

Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Glendon Pyrophyllite Co., Greensboro, N. C.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Tamms Industries, Inc., 229 N. La Salle St., Chicago
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker, Clark & Daniels, 100 Church St., N. Y.

QUATERNARY AMMONIUM COMPOUNDS

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Atlas Powder Co., Wilmington 99, Dela.
J. T. Baker Chemical Co., Phillipsburg, N. J.
Chemo Puro Mfg. Corp., 150 Doremus Ave., Newark, N. J.
Commercial Solvents Corp., 260 Madison Ave., N. Y. 17
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fine Organics, 205 Main St., Lodi, N. J.
Fleetwood Prods. Co., 509 5th Ave., N. Y. 17
Geigy Industrial Chem., Ardsley, N. Y.
General Mills, Kankakee, Ill.
Hooker Chemical Corp., Union St., Niagara Falls, N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Merck & Co., Rahway, N. J.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.



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BTC-927	(N-alkyl (50% C_{12}, 30% C_{14}, 17% C_{16}, 3% C_{18}) dimethyl dimethylbenzyl ammonium chlorides)	1000 ppm
Tetrosan 3,4D	(N-alkyl (50% C_{12}, 30% C_{14}, 17% C_{16}, 3% C_{18}) dimethyl 3, 4 dichlorobenzyl ammonium chlorides)	1100 ppm
BTC-824	(N-alkyl (C_{14}, C_{16}, C_{12}, C_{18}) dimethyl benzyl ammonium chlorides)	550 ppm
BTC-2125	(N-alkyl (C_{14}, C_{16}, C_{12}, C_{18}) dimethyl benzyl ammonium chlorides) and (N-alkyl C_{12}, C_{14}, C_{16}, C_{18}) dimethyl ethylbenzyl ammonium chlorides)	750 ppm

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QUATERNARY AMMONIUM COMPOUNDS (Contd.)

Rohm & Haas, 222 W. Washington Sq., Phila.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
Witco Chem. Co., 122 E. 42nd St., N. Y. 17
Wyandotte Chemicals Corp., Wyandotte, Mich.

QUATERNARY AMMONIUM DISINFECTANTS (see Disinfectants, Quaternary Ammonium)

RAT EXTERMINATING PRODUCTS

California Spray-Chemical Corp., Richmond, Calif.
Chase Products Co., 1816 St. Charles Rd., Maywood, Ill.
Chemical-Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Eagle Soap Co., Huntington, Ind.
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agri. Chems., Ardsley, N. Y.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
O. E. Linck Co., 51 James St., Montclair, N. J.
McLaughlin, Gormley, King Co., 1715 S.E. 5th St., Minneapolis
S. B. Penick & Co., 100 Church St., N. Y. C.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Puro Co., 2801 Locust St., St. Louis 3
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Sennewald Drug Co., 2723 Chouteau Ave., St. Louis
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kansas City 8
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
York Chem. Co., 23 Dean St., Bklyn. 1

RED OIL (Oleic Acid)

Acme Hardesty Co., 60 E. 42nd St., N. Y.
American Cyanamid Co., 30 Rockefeller Plaza, N .Y. 20
Armour & Co., 1355 W. 31st St., Chicago
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Capital City Prods. Co., 525 W. 1st St., Columbus 16, O.
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
Fine Organics, Inc., 205 Main St., Lodi, N. J.
A. Gross & Co., 295 Madison Ave., N. Y.
Harchem Div., 25 Main St., Belleville 9, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Swift & Co., Hammond, Ind.
Jos. Turner & Co., Ridgefield, N. J.
Vegetable Oil Prods., 5568 E. 61 St., Los Angeles
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wilson-Martin Div., Snyder & Swanson, Phila.
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.

REPELLENTS (see Insect Repellents)

RESINS, Synthetic

Alkydol Laboratories, Inc., 3242 S. 50th Ave., Cicero, Ill.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Archer-Daniels-Midland Co., Minneapolis 2
Arkansas Chem. Co., Malvern, Arkansas
Bakelite Co., Div., 30 E. 40th St., N. Y.
Catalin Corp., of America, 1 Park Ave., N. Y.
Cato Chemical Co., 116 S. York St., Elmhurst, Ill.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Durez Plastics Div., N. Tonawanda, N. Y.
Eastman Chem. Prods., Kingsport, Tenn.
General Aniline & Film Corp., 435 Hudson St., N. Y.
General Mills, Inc., Kankakee, Ill.
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland 15
Hercules Powder Co., Wilmington, Dela.
Heyden Newport Chem. Co., 342 Madison Ave., N. Y. C.
Monsanto Chemical Co., Springfield, Mass.
National Starch Prods., 750 3rd Ave., N. Y. 17
Pennsylvania Industrial Chemical Corp., Clairton, Pa.
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Polyvinyl Chemicals, Inc., 26 Howley St., Peabody, Mass.
Reichhold Chemicals, Inc., White Plains, N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Schenectady Resins, 200 Congress St., Schenectady, N. Y.
Semet-Solvay Petrochemical Div., 40 Rector St., N. Y.
Shanco Plastics & Chemicals, Inc., 2 Mile Creek Rd., Tonawanda, N. Y.
Shell Chemical Corp., 50 W. 50th St., N. Y. 20
Silicones Div., Union Carbide Corp., 30 E. 42nd St., N. Y.
Synvar Corp., Wilmington, Dela.
UBS Chem. Corp., 490 Main St., Cambridge, Mass.
Velsicol Corp., 330 E. Grand Ave., Chicago
T. F. Washburn Co., 2244 Elston Ave., Chicago

RESINS, NATURAL (see Gums)

RESPIRATORS (see Gas Masks)

RHODINOL (see Aromatic Chemicals)

RINSE INJECTORS

Almo Laboratories Co., 424 Madison Ave., N. Y. C.

ROACH PASTE

John Opitz, Inc., 50-14 39th St., L. I. City, N. Y.
Puro Co., 2801 Locust St., St. Louis
Sennewald Drug Co., 2733 Chouteau Ave., St. Louis
York Chemical Co., 23 Dean St., Bklyn.

ROACH POWDERS (see Insecticides, Powder)

RODENTICIDES (see Rat Exterminating Products)

ROOM DEODORANTS (see lists under Aerosol Room Deodorants, Glyco Sprays, Theatre Sprays.)

ROSIN

American Turp. Farmers Assn., Valdosta, Ga.
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Buffalo Sols. & Chems. Co., Box 73, Sta. B, Buffalo
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Pine Prods. Co., Hattiesburg, Miss. (wood)
Dixie Solvents & Chems. Co., Dixie Highway, Louisville
General Mills, Kankakee, Ill.
Georgia Rosin Prods. Co., Brunswick, Ga.
Glidden Co., Jacksonville, Fla.
Hercules Powder Co., Wilmington, Del.
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Hoosier Solvents & Chemicals Corp., 1650 Luett St., Indianapolis
Missouri Solvents & Chems. Co., 419 DeSoto, St. Louis
Newport Industries Co., 342 Madison Ave., N. Y. 17
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Phoenix Naval Stores Co., Gulfport, Miss. (wood)
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Texas Solvents & Chem. Co., 8501 Market St., Houston
Union Bag-Camp Paper Corp., 233 Broadway, N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chems. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solv. & Chems. Co., 2940 Stafford Ave., SW, Grand Rapids

ROSIN SOAPS (see Laundry Soap)

ROTENONE and ROTENONE FORMULATIONS

Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
Chipman Chem. Co., Bound Brook, N. J.
Dodwell & Co., 120 Wall St., N. Y. 5
Douglas Chem. Co., 620 E. 16th St., North Kansas City, Mo.
Fairfield Chem. Div., 441 Lexington Ave., N. Y.
Geigy Agricultural Chemicals, Ardsley, N. Y.
McCormick & Co., Baltimore Md.
Miller Prods. Co., 1932 S. W. Water Ave., Portland, Ore.
S. B. Penick & Co., 100 Church St., N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. Market St., Kansas City, Kan.
Quinn Drug & Chem. Co., Greenwood, Miss.
York Chem. Co., 23 Dean St., Bklyn. 1

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RUG and UPHOLSTERY CLEANERS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Analab Laboratories, 285 Franklin St., Boston 10
Antara Chemicals, 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Britex Corp., 17 Lewis Wharf, Boston
Buckingham Wax Corp., Van Dam St., & Borden Ave., L. I. City
Candy & Co., 2515 W. 35th St., Chicago
Chem. Service of Balto. Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Clifton Chemical Co., 150 Nassau St., N. Y.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Davies-Young Soap Co., Dayton, O.
Duo-Dellay Prods., 4201 Pulaski Hwy., Baltimore, Md.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Essential Chem. Co., 5906 N. Port Washington Rd., Milwaukee
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Franklin Research, 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Star Polish Mfg. Co., 400 E. 10th St., N. Kansas City, Mo.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila. 37
Hysan Prods. Co., 936 W. 38th Place, Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Klix Chem. Co., 551 Railroad Ave., South San Francisco, Calif.
Krystal Chem. Co., 2108 N. Southport Ave., Chicago 14
M. Michel & Co., 90 Broad St., N. Y. 4
National Aniline Div., 40 Rector St., N. Y.
National Chem. Labs., 825 Lombard St., Phila.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
Oronite Chemical Co., 200 Bush St., San Francisco 4
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Puro Co., 2801 Locust St., St. Louis 3
Sanders Chem. Co., 2205 N. American St., Phila. 33
I. Schneid, 765 Trabert Ave., N. E. Atlanta, Ga.
Simoniz Co., 2100 Indiana Ave., Chicago 16
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
Swift & Co., Chicago
Trio Chem. Wks., 341 Scholes St., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Warsaw Chem. Co., Warsaw, Ind.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Wyandotte Chemicals Corp., Wyandotte, Mich.

RUST REMOVERS AND PROOFERS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Clarkson Laboratories, 920 N. Darient St., Phila. 23
E. I. du Pont de Nemours & Co., Wilmington, Del.
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Frontier Chem. Prods., 119 E. Soper St., St. Louis
Fuld Bros., 702 S. Wolfe St., Baltimore
Gard Industries, 1739 Harding Rd., Northfield, Ill.
Geigy Industrial Chemicals, Ardsley, N. Y.
Hysan Products Co., 936 W. 38th Place, Chicago
Jones-Hamilton Co., 455 Wells Ave., Newark, Calif.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis, Mo.
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Philadelphia Quartz Co., Public Ledger Bldg., Phila.
Simoniz Co., 2100 Indiana Ave., Chicago 16
Sole Chem. Corp., 27 E. Monroe St., Chicago
Solvay Process Div., 61 Broadway, N. Y.
Warsaw Chem. Co., Warsaw, Ind.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

SADDLE SOAP

Chem. Service of Balto., Howard & West Sts., Balto.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Hewitt Soap Co., Dayton, O.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Windsor Wax Co., Inc., 611 Newark St., Hoboken, N. J.

SAL SODA

Church & Dwight Co., 70 Pine St., N. Y. 5
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Chamber of Commerce Bldg., Cleveland
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Solvay Process Div., 61 Broadway, N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SALT (Common Salt)

Columbia-Southern Chem. Corp., Pittsburgh
Dow Chemical Co., Midland, Mich.
International Salt Co., Box 511, Scranton, Pa.
LeRoy Salt Co., LeRoy, N. Y.
Michigan Chem. Corp., St. Louis, Mich.
Pomeroy Salt Co., Pomeroy, Ohio
Solvay Process Div., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SANITIZERS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Antara Chemicals, 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Atlas Powder Co., Wilmington, Del.
Baird & McGuire, Inc., Holbrook, Mass.
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Britex Corp., 17 Lewis Wharf, Boston 10
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Cowles Chemical Co., 7016 Euclid Ave. ,Cleveland 3
Crystal Soap & Chemical Co., 6300 State Rd., Phila.
Davies-Young Soap Co., Dayton 1, O.
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila. 25
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
National Chem. Labs., 825 Lombard St., Phila.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Pennsalt Chems. Corp., 3 Penn Center, Phila. 2
Puro Co., 2801 Locust St., St. Louis 3
Reily Chemical Co., P. O. Box 98, New Orleans, La.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Sole Chem. Corp., 27 E. Monroe St., Chicago
Sterwin Chemicals, Inc., 1540 Broadway, N. Y.
Thompson-Hayward Chem. Co., 2915 SW Blvd., Kancas City 8
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Witco Chem. Co., 122 E. 42nd St., N. Y.
Westvaco Chem. Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SAPONIN

Florasynth Laboratories, 900 Van Nest Ave., Bronx, N. Y.
S. B. Penick & Co., 100 Church St., N. Y. 7
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10

SCALES (see Weighing Equipment)

SCOURING POWDERS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
B. T. Babbitt, Inc., 625 Madison Ave., N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Britex Corp., 17-18 Lewis Wharf, Boston 10
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palomolive Co., 300 Park Ave., N. Y. 22
Du Bois Co., Cincinnati, O.
Eagle Soap Co., Huntington, Ind.

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East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Fitzpatrick Bros., 1300 W. 32nd St., Chicago 8
Hewitt Soap Co., Dayton, O.
Hysan Prods., 936 W. 38th Place, Chicago
J. Chemical Works, 602 W. 37th St., N. Y. 18
Kamen Soap Prods., Co., 233 Broadway, N. Y. 7
Los Angeles Soap Co., 617 E. First St., Los Angeles
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
New South Mfg. Co., 711 Bankhead Ave., Atlanta
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis, Mo.
Pal Products Mfg. Corp., 276 Warren St., Jersey City, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Purex Corp., 9300 Ravo Ave., South Gate, Calif.
Puro Co., 2801 Locust St., St. Louis 3
S. & S. Soap Co., 815 E. 135 St., N. Y. 54
Sanitary Soap Co., 194 Railroad Ave., Paterson, N. J.
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Stevens-Wiley Mfg. Co., 1601 W. Glenwood Ave., Phila. 32
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SCOURING SOAPS (Bars)

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
James Good, Inc., 2107 E. Susquehanna Ave., Phila.
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
National Soap Co., P. O. Box 1631, Tacoma, Wash.
Procter & Gamble Co., Cincinnati, O.
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Warren Chem. Mfg. Inc., Norwood, Mass.

SCREENS (see Sifting and Screening equipment)

SCRUBBING SOAPS, (see Cleaners, Potash Soaps)

SEALERS, FLOOR

Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Division, S. Ashland Ave., at 29th St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila. 31
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Place Chicago 9
Peck's Products Co., 610 Clarence Ave., St. Louis 15
Uncle Sam Chemical Co., 573 W. 131st St., N. Y.
T. F. Washburn Co., 2244 Elston Ave., Chicago

SEALING MACHINERY (Bags)

Bag-Pak Div., Oshkosh, Wisc.
Bagpak, Inc., 220 E. 42nd St., N. Y. 17
Cosolidated Packaging Machy. Corp., 1400 West Ave., Buffalo 13, N. Y.
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh
R. Hurwich Co., 1043 Hearst Ave., Berkeley, Calif.
Paul L. Karstrom Co., 1834 W. 74th St., Chicago 36
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
St. Regis Paper Co., 230 Park Ave., N. Y.
Stokes & Smith Div., 4915 Summerdale Ave., Philadelphia
Weigh Right Automatic Scale Co., Mills Rd., Joliet, Ill.

SEALING MACHINERY (Cartons and Cases)

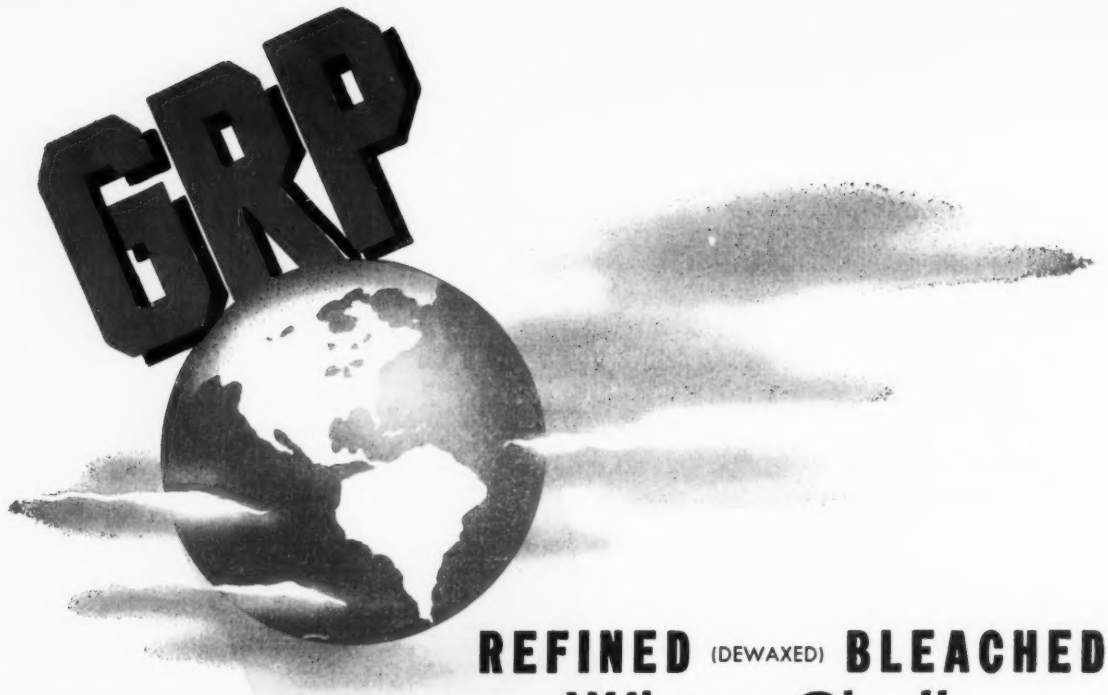
A-B-C Packaging Machy. Corp., Quincy, Ill.
Automatic Scale Co., Box 896, Joliet, Ill.
Battle Creek Packaging Machines, Inc., Battle Creek, Mich.
Chisholm Ryder Co., Hanover, Pa.
J. L. Ferguson Co., Joliet, Ill.
Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Cincinnati
Paul L. Karstrom Co., 1824 W. 74th St., Chicago 36
Laub Engineering Co., 244 N. San Marino Ave., San Gabriel, Calif.
Mojonnier Assoc. Div., 9151 Fullerton Ave., Franklin Park, Ill.
New Jersey Machine Corp., Hoboken, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
F. B. Redington Co., 3000 St. Charles Rd., Bellwood, Ill.
Standard-Knapp Div., Portland, Conn.
Stokes & Smith Div., 4915 Summerdale Ave., Philadelphia
Triangle Package Machinery Co., 6643 W. Diversey Ave., Chicago
Weigh Right Automatic Scale Co., Mills Rd., Joliet, Ill.

SEQUESTERING AGENTS

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, 435 Hudson St., N. Y. 14
Dawe's Laboratories, 4800 S. Richmond St., Chicago 32
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Geigy Industrial Chems., Ardsley, N. Y.
Hampshire Chem. Corp., Nashua, N. H.
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Monsanto Chemical Co., St. Louis 4
Olin Mathieson Chem. Corp., Joliet, Ill.
Pfanstiehl Laboratories, 104 Lake View Ave., Waukegan, Ill.
Chas Pfizer & Co., 630 Flushing Ave., Bklyn.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Refined Prods. Corp., 624 Schuyler Ave., Lyndhurst, N. J.
Rumford Chem. Wks., 19 Newman Ave., Rumford, R. I.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Solvay Process Div., 61 Broadway, N. Y.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Tanatex Chem. Corp., Belleville Turnpike, Kearny, N. J.
Victor Chemical Works, 155 N. Wacker Drive., Chicago
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SHAMPOO BASE (Ready for Dilution)

American Alcolac Corp., 3440 Fairfield Rd., Balto.
Antara Chems. Div., 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago
Baird & McGuire, Inc., South St., Holbrook, Mass.
Buckingham Wax Co., Van Dam St., & Borden Ave., L. I. City, N. Y.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chem. Co., 150 Nassau St., New York
Continental Chemical Co., 195 21st Ave., Paterson, N. J.
Davies-Young Soap Co., Dayton, O.
Domion Prods., Inc., 10-40 44 Dr., Long Island City
Eagle Soap Co., Huntington, Ind.
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore 31
Geigy Industrial Chems., Ardsley, N. Y.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Phila., 37
R. M. Hollingshead Corp., Camden, N. J.
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kranich Soap Co., 54 Richards St., Brooklyn
Marchon Prods. Ltd., Whitehaven, Cumberland, England
Maywood Chem. Wks., Maywood, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Mona Industries, 65 E. 23rd St., Paterson N. J.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Old Empire Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
Pilot California Co., 215 W. 7th St., Los Angeles 14
Procter & Gamble Dist. Co., Cincinnati 1
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
Stepan Chem. Co., 427 W. Randolph St., Chicago
John T. Stanley Co., 624 W. 30th St., N. Y.
Surfacto Co., Box 114, Blue Island, Ill.
Swift & Co., Chicago
Trio Chem. Wks., Scholes St., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.



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Witco Chem. Co., 122 E. 42nd St., N. Y.

SHAMPOOS, POWDER AND CAKE

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Davies-Young Soap Co., Dayton, O.
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Kranich Soap Co., 54 Richards St., Brooklyn
Lightfoot Co., 380 Madison Ave., N. Y. C.
M. Michel & Co., 90 Broad St., N. Y. 4
Procter & Gamble Dist. Co., Cincinnati
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago 9
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHAMPOOS, SOAPLESS

Antara Chems. Div., 435 Hudston St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Averil, Inc., 6780 NW Ct., Miami, Fla.
C. P. Baker & Co., 501 N. 11st St., Phila. 23
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Clifton Chem. Co., 150 Nassau St., New York
Colgate-Palmolive Co., 300 Park Ave., N. Y.
Davies-Young Soap Co., Dayton, O.
Dominion Prods., Inc., 10-40 44 Dr., Long Island City
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Laboratories, 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co.. 936 W. 38th Place, Chicago
Los Angeles Soap Co., 617 E. First St., Los Angeles
Maywood Chem. Wks., Maywood, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
National Aniline Div., 40 Rector St., N. Y.
National Chem. Labs., 825 Lombard St., Phila.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Oronite Chemical Co., 200 Bush St., San Francisco 4
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 4
Pilot California Co., 215 W. 7th St., Los Angeles 14
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Witco Chem. Co., 122 E. 42nd St., N. Y.

SHAVING CREAM (soap and Brushless)

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Davies-Young Soap Co., Dayton 1, O.
Eagle Soap Co., Huntington, Ind.
Lightfoot Co., 380 Madison Ave., N. Y. C.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

SHAVING CREAM BASE

E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Miranol Chemical Co., 277CoitSt., Irvington, N. J.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Refined Prods Corp., 624 Schuyler Ave., Lyndhurst, N. J.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Van Dyk & Co., Belleville 9, N. J.

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Acme Shellac Prods. Co., 108 Blanchard St., Newark, N. J.
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Bradshaw Praeger & Co., 3248 W. 47th Place, Chicago
Wm. Diehl & Co., 114 E. 56th St., N. Y. 18
Gillespie-Rogers-Pyatt Co., 75 West St., N. Y.
Mac-Lac Co., Inc., 33 Rector St., N. Y. 6

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Wm. Diehl & Co., 114 E. 56 St., N. Y. 22
Gillespie-Rogers-Pyatt Co., 75 West St., N. Y.
Mac-Lac Co., 33 Rector St., N. Y. 6
Mantrose Corp., 1 Hanson Pl., Brooklyn
F. H. Paul & Stein Bros., 235 5th Ave., N. Y. 16
Stromeyer & Arpe Co., 139 Franklin St., N. Y. 13
Wm. Zinsser & Co., 516 W. 59th St., N. Y.

SHIPPING CASES (see Boxes, Corrugated or Fiber)

SHOE POLISHES (Leather Dressings) for the Trade

Asco Chemical Co., 641 Lexington Ave., Bklyn.
Chem. Service of Balto., Howard & West Sts., Balto.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Help, Inc., 122 W. Kinzie St., Chicago
R. H. Hollingshead Corp., Camden, N. J.
K. B. Chem. Co., Dunnell's Lane, Pawtucket, R. I.
D. S. Lesnever & Son, 213 Summer St., Lynn, Mass.
H. F. Staples Co., Medford, Mass.
Walco Prods., Inc., 36 Woodland St., Hartford, Conn.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Windsor Wax Co., 611 Newark St., Hoboken, N. J.

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Alba Cork Co., 93 Oxford Ave., Jersey City, N. J.
American Cork Specialties Co., 140 Junius St., Brooklyn
Applicator Brush Co., 100 Water St., Brooklyn, N. Y.
Armstrong Cork Co., Lancaster, Pa.
Ox Fiber Brush Co., Frederick, Md.

SIFTER TOP CANS (see Cans, Sifter Top)

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Arthur Colton Co., 3431 E. Lafayette, Detroit
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
J. H. Day Co., Cincinnati 12
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Ludlow-Sayer Wire Co., St. Louis, Mo.
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Sturtevant Mill Co., Boston, Mass.
Young Machinery Co., Muncy, Pa.

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Dicalite Div., 612 S. Flower St., Los Angeles, Calif.
E. I. du Pont de Nemours & Co., Wilmington (Colloidal)
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Illinois Silica Co., Cairo, Ill.
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Silica Prods. Co., 700 Baltimore Ave., Kansas City, Mo.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
Charles A. Wagner Co., 4455 N. 6th St., Phila. 23
Whittaker, Clark & Daniels, 100 Church St., N. Y.
Witco Chemical Co., 122 E. 42nd St., N. Y.

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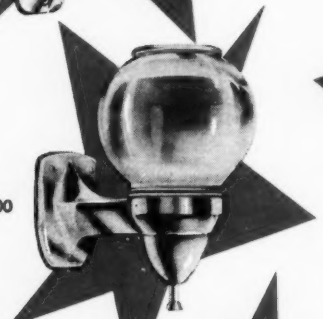
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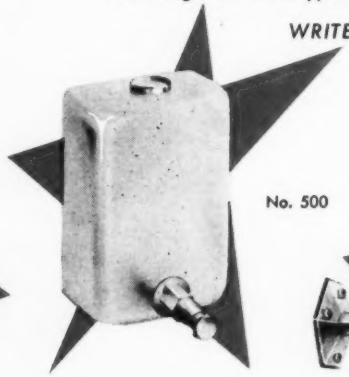
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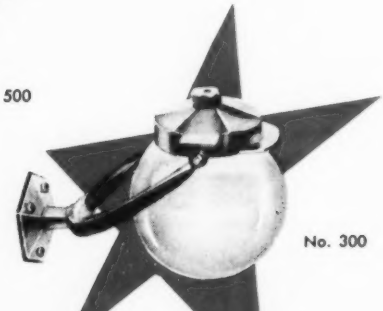
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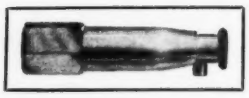
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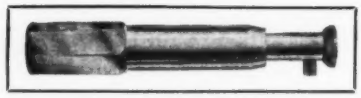
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J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Oronite Chem. Co., 200 Bush St., San Francisco
Project Construction Corp., 39 Broadway, N. Y. 6
Sharples Corp., 2300 Westmoreland St., Phila. 40
Henry Simon Ltd., Stockport, Cheshire, England
Foster D. Snell, 20 W. 15th St., N. Y. 11
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

SOAP BARK (see Saponin)

SOAP BOOKS (see Soap Paper)

SOAP, CASTILE (see Castile Soap)

SOAP, CHIP (see Chip Soaps)

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Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Cincinnati
Jas. H. Matthews & Co., 3942 Forbes St., Pittsburgh
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 36th St., Chicago
I. Schwartz Engraving & Die Works, 241 Lafayette St., N. Y.

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Almo Laboratories Co., 424 Madison Ave., N. Y. 17
Chem. Service of Baltimore, Howard & West Sts., Baltimore
Dema Engineering Co., 702 E. Big Bend Blvd., St. Louis
Economics Laboratory, Inc., Guardian Bldg., St. Paul
Fitzpatrick Bros., 1300 W. 32 Pl., Chicago 8
Fuld Bros., 702 S. Wolfe St., Baltimore
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati
Hysan Prods. Co., 936 W. 38th Place, Chicago
Independent Specialties, 152 W. 75th St., Chicago
J. Chemical Works, 602 W. 37th St., N. Y. 18
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods Co., 610 E. Clarence Ave., St. Louis 15
Theobald Industries, P. O. Box 72, Harrison, N. J.
James Varley & Sons, 1200 Switzer Avt., St. Louis 15
Wyandotte Chemicals Corp., Wyandotte, Mich.

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Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn. 25
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 936 W. 38th Pl., Chicago
Imperial Brass Co., 1237 W. Harrison Ave., Chicago
Moore Bros. Co., 100 Warren St., N. Y.
Palmer Fixture Co., Waukesa, Wisc.
U. S. Sanitary Specialties Corp., 1001 S. California Ave. ,Chicago
Uncle Sam Chem. Co., 573 W. 131st St., N. Y. 27

SOAP DISPENSERS (Liquid)

Ace Dispenser Co., 100 Broadway, Buffalo, N. Y.
American Dispenser Co., 860 Broadway, N. Y. 3
Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn. 25
Clifton Chemical Co., 150 Nassau St., N. Y. C.
Dema Engineering Co., 702 E. Big Bend Blvd., St. Louis
Fuld Bros., 702 Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Place, Chicago
Imperial Brass Co., 1237 W. Harrison St., Chicago
Moore Bros. Co., 101 Warren St., N. Y.
National Dispenser Co., 230 W. 116th St., Los Angeles (paste)
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Palmer Fixture Co., Waukesha, Wisc.
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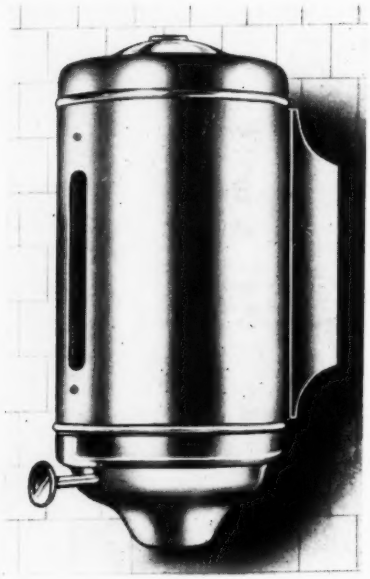
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Lightfoot Co., 380 Madison Ave., N. Y. C.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Palmer Fixture Co., Waukesha, Wisc.
Sugar Beet Prods. Co., Saginaw, Mich.
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Moore Bros. Co., 101 Warren St., N. Y.
Palmer Fixture Co., Waukesha, Wisc.
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Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
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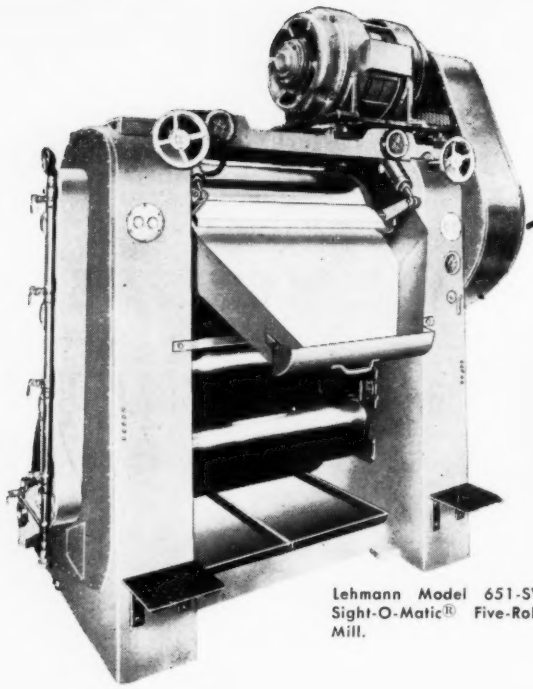
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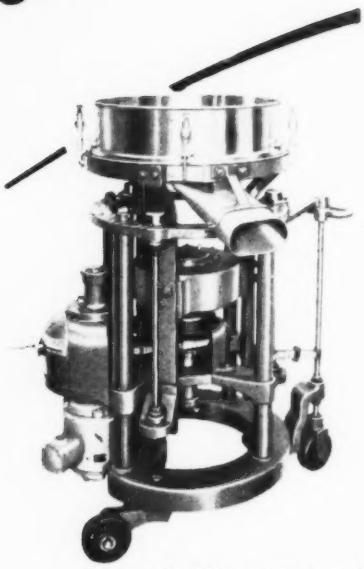


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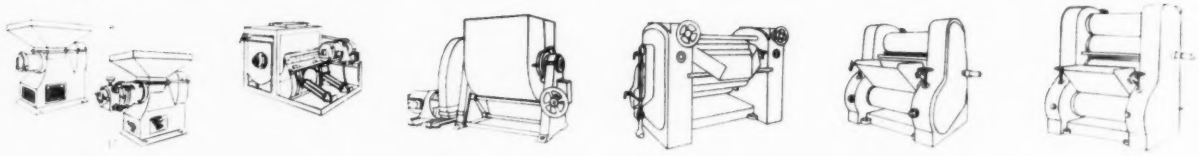
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Procter & Schwartz, 7th St. & Tabor Rd., Philadelphia
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SOAP, GREEN (see Potash Soaps)

SOAP, HARD WATER (see Hard Water Soaps)

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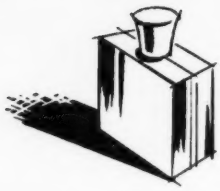
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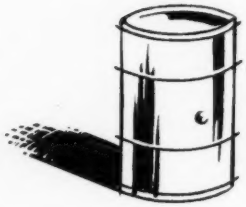
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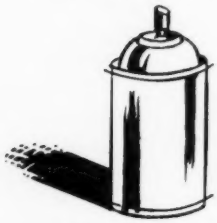
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Eastman Chem. Prods., Kingsport, Tenn.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
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Tombarel Prods. Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Avenue of Americas, N. Y.
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Van Dyk & Co., Main & William Sts., Belleville 9, N. J.
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Verona Aromatics, 26 Verona Ave., Newark, N. J.

SOAP PLANTS (Continuous Process)

Delaval Separator Co., Poughkeepsie, N. Y.
Emery Industries, Carew Tower, Cincinnati, O.
G. Mazzoni, Busto Arsizio, Italy
Meccaniche Moderne, Coro Sempione 51, Busto Arsizio, Italy
Sharples Corp., 23rd & Westmoreland Sts., Phila. 40
A. Savy, Jeanjean & Cie, Ave. Dubonnet, Courbevoie, France
Foster D. Snell, 29 W. 15th St., N. Y. 11
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chgo.

SOAP, POWDERED (White neutral powdered soap, powdered castile soap, etc., 95-99 per cent anhydrous soap. Do not confuse with Soap Powders.)

Armour & Co., 1355 W. 31st St., Chicago 9
Britex Corp., 17 Lewis Wharf, Boston
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Kranich Soap Co., 54 Richards St., Brooklyn, N. Y.
Lever Bros., Co., 390 Park Ave., N. Y. 22
Mione Mfg. Co., Collingdale, Pa.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago 9
Warren Chem. Mfg., Inc., Norwood, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SOAP POWDERS (Do not confuse wtih pure powdered soaps)

ABC Compounding Co., 1624 Marietta Rd., Atlanta 1
Armour & Co., 1355 W. 31st St., Chicago 9
Beach Soap Co., Lawrence, Mass.
Britex Corp., 17 Lewis Wharf, Boston
Chicago Sanitary Prods. Corp., 3100 S. Throop St., Chicago 8
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Du Bois Co., Cincinnati
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Essential Chems. Co., 5906 N. Port Washington Ave., Milwaukee
Fitzpatrick Bros., 1300 W. 32 Pl., Chicago 8
R. M. Hollingshead Corp., Camden, N. J.
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
J. Chemical Works, 437 11th Ave., N. Y. 18
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Klix Chem. Co., 551 Railroad, S. San Francisco
H. Kohnstamm & Co., 161 6th Ave., N. Y. C.
Lever Bros. Co., 390 Park Ave., N. Y.
Los Angeles Soap Co., 617 E. First St., Los Angeles
M. Michel & Co., 90 Broad St., N. Y. 4
Midland Laboratories, Dubuque, Iowa
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Murro Chemical Co., Portsmouth, Va.
National Southern Products, Tuscaloosa, Ala.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
New South Mfg. Co., 711 Bankhead Ave., N.W., Atlanta
Nopco Chemical Co., 60 Park Pl., Newark 1, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Distributing Co., Cincinnati
S. & S. Soap Co., 815 E. 135 St., N. Y. 54
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Standard Soap Co., 205 S. 2nd St., Camden, N. J.

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KAMENOL M
POWDER
40 42 Titre Uniform 88-92% pure soap powder or bead, highest quality.

KAM 15
POWDER:
General Use
For Heavy Duty, Greasy Floors, 15-18% soap powder.

KAM 25
POWDER
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SOAP POWDERS (Contd.)

John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Warren Chem. Mfg., Inc., Norwood, Mass.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SOAP PRESSES (see Presses)

SOAP SHEETS (see Soap Paper)

SOAP SOLUTIONIZING DEVICES (Solutionizing and dispensing devices for soaps and detergents)

Davies-Young Soap Co., Dayton, O.
Dema Engineering Co., 702 E. Big Bend Blvd., St. Louis
Force-Flo, Inc., Box 2442, East Cleveland, O.
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Independent Specialties, 152 W. 75th St., Chicago
J. Chemical Corp., 437 11th Ave., N. Y. 18
Peck's Prods Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis
Theobald Industries, P. O. Box 72, Harrison, N. J.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis

SOAP SLABBERS (see Soap Machinery)

SOAP SPRAY TOWERS (see Spray Towers)

SOAP STOCK (Boiled down cotton oil soap stock, etc.) (see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Falk & Co., Pittsburgh 30
Wm. H. Floyd & Co., Los Angeles
Hewitt Soap Co., Dayton, O.
Portsmouth Cotton Oil Refining Co., Portsmouth, Va.
Procter & Gamble Dist. Co., Cincinnati, O.
Southern Cotton Oil Co., 25 Broad St., N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
Swift & Co., Chicago 9
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SOAP TISSUES, (see Soap Papers)

SOAP VALVES (see Soap Dispensers, Multi-unit)

SOAP, WHALE OIL (see Whale Oil Soap)

SOAP WRAPPING MACHY (see Wrapping Mach.)

SOAPLESS DETERGENTS (see Detergents, Synthetic)

SOAPLESS SHAMPOO (see Shampoos, Soapless)

SOAPS, ANTISEPTIC AND DEODORANT (Cake and liquid)

Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Bixon Chem. Corp., 1163 Southern Blvd., N. Y. 59
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Davies-Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Franklin Research, 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Labs., Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37.
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis 3
Purex Corp., 9300 Rayo Ave., South Gate, Calif.

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Liquid . . . . . 50% and 73% NaOH
Solid . . . . . 76% Na_2O
Flake . . . . . 76% Na_2O, Fine and Medium

Columbia-Southern Caustic Soda is especially desirable for the manufacture of soap because of its freedom from impurities and metallic contamination. Liquid grades are shipped in special tank cars which first made practical the shipment of 73% Caustic Liquor in its purest form. Insulation effectively prevents crystallization and the patented lining prevents metallic contamination in transit.

Other grades test 98-100% Sodium Hydroxide (NaOH), equivalent to 76% Na_2O. Flake Caustic Soda is prepared in two grades of fine and medium sized flakes, free of dust. The finer grade is especially suitable for repacking for household use.

CAUSTIC POTASH

Furnished in standard grade of Solid and Flake, and as 50% concentration in Liquid.

Columbia-Southern Caustic Potash is another product of high quality and purity that soap-makers find excellent for use in liquid soap and soft soap manufacture.

SODA ASH—LIGHT AND DENSE

The original Columbia-Southern chemical. Over a half-century's experience in the manufacture of this essential chemical for soap makers has enabled Columbia-Southern to develop techniques and controls that assure uniform density and regularity of physical form and purity.

PACIFIC CRYSTALS

Pacific Crystals are a true sodium sesqui-carbonate—unmodified by mechanical mixing—of a tabular, crystalline structure and fine particle size. They are non-irritating, free-flowing, non-caking. They mix readily with dry materials and dissolve quickly in water.

The gentle, safe action of Pacific Crystals has made it widely accepted by repackers and compounders for many uses such as soap extenders, water softeners, laundry-textile-dairy-tanner's sodas, dishwashing compounds, silk degummers, general cleaning compounds. Pacific Crystals can be used directly in the crutcher in the manufacture of soap builders. Packed in 100 lb. paper bags.

PARA-DICHLOROBENZENE

Columbia-Southern Para-Dichlorobenzene sublimes readily leaving no residue, is soluble in most organic solvents but is insoluble in water. Available in a variety of mesh sizes to meet the needs of the soap industry in the manufacture of sanitary specialties and deodorants. Shipped in fiber drums, 200 lbs. net.

ORTHO-DICHLOROBENZENE

Columbia-Southern Ortho-Dichlorobenzene is a clear, colorless to slightly yellow liquid with a pungent but not unpleasant odor. It is readily soluble in most organic solvents, but is insoluble in water. Used in the preparation of special cleaning agents and for various degreasing compounds. Shipped in 55 gallon drums and 8,000 and 10,000 gallon tank cars.

PHOSFLAKE

Phosflake is a uniform blend of Caustic Soda and Tri-Sodium Phosphate, prepared in convenient flake form. Especially adapted to machine bottle washing—quick acting, easy to handle (minimizes dust particles that irritate the skin and throat of the operator), superior in sterilizing and rinsing properties.

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Mixtures of Sodium Carbonate and Sodium Bicarbonate. Especially useful in cleansing operations requiring a mild alkaline detergent-aid. Manufactured in three grades—No. 100, No. 200 and No. 300—with different degrees of alkalinity.

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SOAPS, ANTISEPTIC AND DEODORANT (Contd.)

Reily Chemical Co., Industrial Prods. Div., P.O. Box 98, New Orleans, La.
Standard Soap Co., 104 Railroad Ave., Paterson, N. J.
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
U. S. Sanitary Specalties Corp., 1001 S. California Ave., Chicago
James Varley & Sons, 1200 Switzer Ave., St. Louis 15

SOAPS, AUTO (see Potash Soaps)

SOAPS, FLOATING (see Floating Soaps)

SOAPS, GRANULATED (see Laundry Soaps, Granulated)

SOAPS, SCOURING (see Scouring Soaps)

SOAPS, SCRUBBING (see Floor Scrub Soaps)

SOAPS, SURGICAL (see Potash Soaps)

SODA ASH
(see also Dealers)

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hooker Chemical Corp., Niagara Falls, N. Y.
Jefferson Chem. Co., 1121 Walker Ave., Houston, Tex.
Olin Mathieson Chem. Corp., Baltimore 3
Solvay Process Div., 61 Broadway, N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y. 17
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
West End Chem. Co., 1956 Webster St., Oakland, Calif.
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SODA, MODIFIED

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Solvay Process Div., 61 Broadway, N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SODIUM ACID SULFATE (see Nitre Cake)

SODIUM ARSENITE

California Spray-Chemical Corp., Richmond, Va.
Chipman Chem. Co., Bound Brook, N. J.
General Chem. Div., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Merck & Co., Rahway, N. J.
Pennsalt Chems. Corp., 3 Penn Center, Phila. 2
Shepherd Chem. Co., Cincinnati 12, O.
Stauffer Chem. Co., 380 Madison Ave., N. Y.

SODIUM BENZOATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Dow Chemical Co., Midland, Mich.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y.
Hooker Chemical Corp., Niagara Falls, N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis 4
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn.
Robeco Chems. Inc., 23 E. 26th St., N. Y. C.
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.

SODIUM BICARBONATE

Church & Dwight Co., 70 Pine St., N. Y. 5
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Robeco Chems. Inc., 23 E. 26th St., N. Y. C.
Solvay Process Div., 61 Broadway, N. Y. 6
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wyandotte Chemicals Corp., Wyandotte, Mich.

SODIUM BICHROMATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Co., St. Louis 7
Merck & Co., Rahway, N. J.
Mutual Chemical Div., 99 Park Ave., N. Y.
Prior Chemical Corp., 420 Lexington Ave., N. Y.
Solvay Process Div., 61 Broadway, N. Y. 6
Jos. Turner & Co., Ridgefield, N. J.

SODIUM BISULFATE (see Nitre Cake)

SODIUM CARBONATE (see Soda Ash)

SODIUM CHLORATE

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
J. T. Baker Chem. Co., Phillipsburg, N. J.
Chipman Chem. Co., Bound Brook, N. J.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Chemical Corp., Niagara Falls, N. Y.
Mallinckrodt Chem. Co., St. Louis 7
Merck & Co., Rahway, N. J.
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM CHLORIDE (see Salt, Common Salt)

SODIUM CHLORITE

Olin Mathieson Chem. Corp., Baltimore 3
Berkshire Chemicals, Inc., 420 Lexington Ave., N. Y. 1 7

SODIUM CYANIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Mallinckrodt Chemical Wks., St. Louis 7
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Robeco Chems. Inc., 25 E. 26th St., N. Y. C.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM FLUORIDE (see Fluorides)

SODIUM FLUOSILICATE (see Sodium Silicofluoride)

SODIUM GLUCONATE

Dawe's Laboratories, 4800 S. Richmond St., Chicago 32
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 10
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6

SODIUM HYDROSULFITE

Antara Chemicals Div., 435 Hudson St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chemical Wks., St. Louis, Mo.
Merck & Co., Rahway, N. J.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.
Virginia Smelting Co., W. Norfolk, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SODIUM HYPOCHLORITE (see Laundry Bleach)



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PQ Silicates add excellent dirt-removing properties; they prevent the redeposition of removed soil, they protect metals against corrosive attack . . . all these at lower costs.

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Some of the PQ Silicates of interest to detergent manufacturers and formulators.

NAMES	RATIO $\%Na_2O:\%SiO_2$	$\%Na_2O$	$\%SiO_2$	BAUME 68°F.
LIQUID SILICATES				
N	1:3.22	8.90	28.7	41.0°
RU	1:2.40	13.8	33.1	52.0°
C	1:2.00	18.0	36.0	59.3°
B-W	1:1.60	19.5	31.2	58.5°
Kasil #1	1:2.50	7.90 K_2O	19.8	28.4°
Kasil #6	1:2.10	12.45 K_2O	26.2	40.3°
PQ DRY SILICATES				
G	1:3.22	19.40	62.5	sodium trisilicate
GD	1:2.00	27.50	55.0	sodium disilicate
SS-C Pwd.	1:2.00	32.70	65.4	sodium disilicate
Metso Anhydrous	1:1*	51.00	45.5	sodium metasilicate anhydrous
Metso Granular	1:1*	29.0	28.7	sodium metasilicate pentahydrate
Metso 99	3:2*	36.70	24.2	sodium sesquisilicate hydrated
Metso 200	2:1*	60.80	27.5	sodium orthosilicate concentrated
Kasil SS Pwd.	1:2.50	28.3 (K_2O)	70.7	powdered potassium silicate

*Molecular Ratio

Complete details on PQ Silicates available in Bulletin 17-1.

PQ SOLUBLE SILICATES

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SODIUM HYPOPHOSPHITE

J. T. Baker Chem. Co., Phillipsburg, N. J.
Hooker Chemical Corp., Niagara Falls, N. Y.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 9

SODIUM HYPOSULFITE (Thiosulfate)

Antara Chemicals, Div. GAF, 435 Hudson St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
A. R. Maas Chem. Co., 4570 Ardine St., South Gate, Calif.
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
Rohm & Haas, 222 W. Washington Sq., Phila.
Jos. Turner & Co., Ridgefield, N. J.
Virginia Smelting Co., W. Norfolk, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SODIUM LAURYL SULFATE

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Archer-Daniels-Midland Co., Minneapolis 2
Chemo Puro Mfg. Corp., 150 Doremus Ave., Newark, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chems., Ardsley, N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
National Aniline Div., 40 Rector St., N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City, N. J.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sole Chem. Corp., 27 E. Monroe St., Chicago
Stepan Chemical Co., 427 W. Randolph St.
Treplow Prods., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y.

SODIUM METABORATE

American Potash Chem. Corp., 3030 W. 6th St., Los Angeles
U. S. Borax & Chem. Corp., 50 Rockefeller Plaza, N. Y. 20

SODIUM METAPHOSPHATE

Hooker Chemical Corp., 60 E. 42nd St., N. Y. C.
Monsanto Chemical Co., St. Louis 4
Olin Mathieson Chem. Corp., Joliet, Ill.
Rumford Chemical Wks., Rumford, R. I.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chemical Corp., Richmond, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17

SODIUM METASILICATE (Anhydrous and Hydrated)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y. 6
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wyandotte Chems. Corp., Wyandotte, Mich.

SODIUM METHYLATE

R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Olin Mathieson Chem. Corp., Baltimore 3

SODIUM NITRITE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Solvay Process Div., 61 Broadway, N. Y.

SODIUM ORTHOSILICATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SODIUM PERBORATE

Becco Chemical Div., Buffalo 7, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17

SODIUM PHOSPHATES (see also Sodium Metaphosphate, Sodium Tripolyphosphate, Tetrasodium Pyrophosphate, Trisodium Phosphate, etc.)

Am. Agricultural Chem. Co., 100 Church St., N. Y. C.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y. 6
Hooker Chemical Co., 60 E. 42nd St., N. Y. C.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Joliet, Ill.
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17
Rumford Chemical Wks., Rumford, R. I.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17

SODIUM PYROPHOSPHATE (see Tetrasodium Pyrophosphate)

SODIUM SESQUICARBONATE

Diamond Alkali Co., Union Commerce Bldg., Cleveland
Olin Mathieson Chem. Corp., Baltimore 3
Solvay Process Div., 61 Broadway, N. Y.
Virginia-Carolina Chemical Corp., Richmond, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17

SODIUM SESQUISILICATE

Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wyandotte Chemicals Corp., Wyandotte, Mich.

SODIUM SILICATE

Diamond Alkali Co., Union Commerce Bldg., Cleveland
General Chem. Div., 40 Rector St., N. Y. 6
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SODIUM SILICOFLUORIDE

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
American Fluoride Corp., 151 W. 19th St., N. Y.
Armour & Co., Chicago
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Merck & Co., Rahway, N. J.
Olin Mathieson Chem. Corp., Joliet, Ill.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Tennessee Corp., Atlanta, Ga.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SODIUM SULFATE (Glauber's Salt)

American Cyanamid Co., 30 Rockefeller Center, N. Y.
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chem. Co., 1945 E. 97th St., Cleveland
Hooker Chemical Corp., Niagara Falls, N. Y.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chemical Co., St. Louis 24, Mo.

SODIUM SULFATE (Glauber's Salt) (Contd.)

Olin-Mathieson Chem. Corp., Joliet, Ill.
Prior Chem. Corp., 420 Lexington Ave., N. Y. 17
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
West End Chemical Co., 1946 Webster St., Oakland, Calif.

SODIUM SULFITE

E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y. 6
Mallinckrodt Chemical Wks., St. Louis, Mo.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Prior Chemical Corp., 420 Lexington Ave., N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Reichhold Chemicals, Inc., White Plains, N. Y.
Victor Chemical Works, 155 N. Wacker Dr., Chicago
U. S. Industrial Chems. Co., 99 Park Ave., N. Y. 16

SODIUM TETRABORATE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
E. I. du Pont de Nemours & Co., Wilmington, Del.
U. S. Borax & Chem. Corp., 50 Rockefeller Plaza, N. Y.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13

SODIUM TOLUENE SULFONATE

Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
M. Michel & Co., 90 Broad St., N. Y. 4
Pilot California Co., 215 W. 7 St., Los Angeles
Tennessee Corp., 619 Grant Blvd., Atlanta, Ga.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

SODIUM TRIPOLYJHOSPHATE

Am. Agricultural Chem. Co., 100 Church St., N. Y. C.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Hooker Chemical Co., 60 E. 42nd St., N. Y. C.
Monsanto Chemical Co., St. Louis 24, Mo.
Rumford Chem. Wks., Rumford, R. I.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17

SODIUM XYLENE SULFONATE

Abbey Chem. Corp., Union, N. J.
Continental Oil Co., 1270 Ave. of Americas, N. Y. 20
Intex Chem. Corp., 167 Main St., Lodi, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Pilot California Co., 215 W. 7 St., Los Angeles
Tennessee Corp., 619 Grand Blvd., Atlanta, Ga.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y. 4

SOFT SOAPS (see Potash Soaps)

SOFTENERS (Textile)

Antara Chems., Div. GAF, 435 Hudson St., N. Y.
Archer-Daniels-Midland Co., Minneapolis 2, Minn.
Armour & Co., 1355 W. 31st St., Chicago 9
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emery Industries, Carew Tower, Cincinnati
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
General Mills, Inc., Kankakee, Ill.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City, N. J.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Rumford Chem. Wks., Rumford, R. I.
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
Stepan Chem. Co., 427 W. Randolph St., Chicago 6

HIGH QUALITY

SODIUM SULPHATE

PRIOR
CHEMICAL CORPORATION
420 LEXINGTON AVENUE
NEW YORK 17, N. Y.

CABLE: PRIORCHEM NEW YORK
PHONE: LExington 2-9811

Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Tanatex Chem. Corp., Belleville Turnpike, Kearny, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

SOIL FUMIGANTS

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Antara Chem. Div., GAF, 435 Hudson St., N. Y.
California Spray-Chemical Corp., Richmond, Calif.
Dow Chemical Co., Midland, Mich.
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Jefferson Chemical Co., 1121 Walker Ave., Houston, Tex.
Larvacide Products, Inc., 117 Liberty St., N. Y. 17
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Baltimore 3
Shell Chemical Corp., 50 W. 50th St., N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y. 17

SOLUBLE OILS (see Sulfonated Oils)

SOLUTIONIZING DEVICES (see Soap Solutionizing Devices)

SOLVENTS, ETHER (see Ethers)

SOLVENTS, CHLORINATED (see also alcohols, coal tar derivatives, etc.)

Amsco Solvents & Chemical Co., 4619 Reading Road, Cincinnati 29
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dixie Solvents & Chems. Co., Dixie Highway, Louisville
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastman Chemical Prods. Co., Kingsport, Tenn.
Fine Organics, Inc., 205 Main St., Lodi, N. J.
Hercules Powder Co., 961 Market, St., Wilmington (Terpene)
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis
Jefferson Chemical Co., 1121 Walker Ave., Houston, Tex.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Monsanto Chemical Co., St. Louis 24, Mo.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Pennsalt Chems. Corp., 3 Penn Center Plaza, Phila.
Plastics & Coal Chem. Div., 40 Rector St., N. Y. C.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Shell Chemical Corp., 50 W. 50th St., N. Y. 18
Skelly Oil Co., Kansas City, Mo.
Solvay Process Div., 61 Broadway, N. Y.
Southern Solv. & Chem. Corp., 1352 Jefferson Highway, New Orleans
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chem. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
U. S. Industrial Chemicals, Inc., 99 Park Ave., N. Y. 16
Velsicol Corp., 330 E. Grand Ave., Chicago
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee
Wolverine Sols. & Chems. Co., 2940 Stafford Ave., SW, Grand Rapids
Wyandotte Chemicals Corp., Wyandotte, Mich.

SOLVENTS, NAPHTHA

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29
Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Phila.
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12
Dixie Solvents & Chems. Co., Dixie Highway, Louisville
Eastern States Pet. & Chem. Corp., Houston 12, Tex.
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Gulf Oil Corp., Pittsburgh 30
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Pennsylvania Industrial Chem. Corp., Clairton, Pa.
Pennsylvania Refining Co., Butler, Pa.
Plastics & Coal Chem. Div., 40 Rector St., N. Y. 6
Reilly Tar & Chemical Corp., Indianapolis
Skelly Oil Co., 605 W. 47th St., Kansas City, Mo.
Sinclair Petrochem., Inc., 600 5th Ave., N. Y. 20
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Southern Solv. & Chem. Corp., 917 Jefferson Highway, New Orleans
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Tar Residuals, Inc., 420 Lexington Ave., N. Y.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Velsicol Corp., 330 E. Grand Ave., Chicago
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solv. & Chem. Co., 2940 Stafford Ave., SW, Grand Rapids

SOLVENTS, OXYGENATED

Amsco Sols. & Chems. Co., 3470 W. 140th St., Cincinnati
Buffalo Solvents & Chems. Corp., P. O. Box #73, Sta. B, Buffalo
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Sols. & Chems. Co., Dixie Highway, Louisville
Enjay Co., 15 W. 51st St., N. Y. 19
Hoosier Solvents & Chem. Corp., 1650 Luett St., Indianapolis
Jefferson Chemical Co., 1121 Walker Ave., Houston, Texas
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Texas Solvents & Chems. Co., 8501 Market St., Houston.
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Sols. & Chems. Co., 1719 S. 83rd St., Milwaukee
Wolverine Sols. & Chems. Co., 2940 Stafford Ave., SW, Grand Rapids

SOLVENTS, PETROLEUM

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29
Anderson-Prichard Oil Co., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Central Solvents Co., 2500 Summit, Kansas City, Mo.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Solvents & Chems. Co., Dixie Highway, Louisville
Eastern States Pet. & Chem. Corp., Houston 12, Tex.
Esso Standard Oil Co., 15 W. 51st St., N. Y.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Penna. Industrial Chem. Corp., Clairton, Pa.
Pennsylvania Refining Co., Butler, Pa.
Phillips Petroleum Co., Bartlesville, Okla.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y. 10
Shell Oil Co., 50 W. 50th St., N. Y.
Sinclair Petrochems., Inc., 600 5th Ave., N. Y. 20
Skelly Oil Corp., 605 W. 47th St., Kansas City, Mo.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 10
L. Sonneborn Sons, 300—4th Ave., N. Y. 10
Southern Solv. & Chems. Corp., 917 Jefferson Highway, New Orleans
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Sun Oil Co., 1608 Walnut St., Phila. 3
Texas Co., 135 E. 42nd St., N. Y. 17
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Velsicol Corp., 330 Grand Ave., Chicago
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solv. & Chems. Co., 2940 Stafford Ave., SW, Grand Rapids

SOYA BEAN OIL

Archer-Daniels-Midland Co., Minneapolis 2
Balfour, Guthrie Co., 67 Wall St., N. Y.
Eastern Industries, Inc., Ridgefield, N. J.
Pacific Vegetable Oil Co., 1145 S. 10th St., Richmond, Calif.
Purina Mills, St. Louis
Robinson Wagner Co., 628 Waverly Ave., Mamaroneck, N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
Swift & Co., Hammond, Ind.
Vegetable Oil Prods., 5568 E. 61 St., Los Angeles
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
G. S. Ziegler & Co., Great Neck, N. Y.

SOYA BEAN FATTY ACIDS

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago

SOYA BEAN FATTY ACIDS (Contd.)

Capital City Prods. Co., 525 W. 1st St., Columbus, O.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Emery Industries, 4300 Carew Tower, Cincinnati 2
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., 25 Main St., Belleville, N. J.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 17
Procter & Gamble Dist. Co., Cincinnati 1
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Swift & Co., Hammond, Ind.
Vegetable Oil Prods., 5568 E. 61 St., Los Angeles
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wilson-Martin Div., Snyder Ave. & Swanson St., Phila.
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

SPERMACETI (see Whale Oil)

SPOTTING FLUIDS (see Cleaning Fluids)

SPOUTS (see Can Spouts, Closures)

SPRAY DRYERS (engineering and installation)

Bowen Engineering, Inc., North Branch, N. J.
J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Nichols Eng. & Research Corp., 70 Pine St. ,N. Y.
Procter & Schwartz, Inc., 7th St. & Tabor Rd., Phila.
Foster R. Snell, 29 W. 15th St., N. Y. 11
Spraying Systems, Inc., 3266 Randolph St., Bellwood, Ill.
Swenson Evaporator Div., Whiting Corp., Whiting, Ill.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

SPRAY SYSTEMS, PERMANENT INSTALLATIONS

Gallo Co., 1312 Forest St., Racine, Wisc.
H. D. Hudson Mfg. Co., 549 E. Illinois St., Chicago 11
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Virginia Smelting Co., West Norfolk, Va.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

SPRAYER NOZZLES (see Nozzles)

SPRAYERS, ATOMIZING (hand)

Arnold-Copeland Co., 22 Elkins St., So. Boston, Mass.
Calmar Distributors, Inc., 5020 Spring Grove, Cincinnati, O.
R. E. Chapin Mfg. Wks., Batavia, N. Y.
Dobbins Div., Chamberlain Corp., Waterloo, Iowa
Evans-Crowder Co., South Lyon, Mich.
Federal Tool Corp., 3600 S. Pratt Blvd., Chicago 45
Gallo Co., 1312 Forest St., Racine, Wisc.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
MacCarl Co., 4342 Pearl Rd., Cleveland, O.
D. B. Smith & Co., 414 Main St., Utica, N. Y.
Spraying Systems, Inc., 3266 Randolph St., Bellwood, Ill.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

SPRAYERS, COMPRESSED AIR (pressurized tank)

Acmeline Mfg. Co., Traverse City, Mich.
Champion Sprayer Co., 6523 Heintz Ave., Detroit 11
R. E. Chapin Mfg. Co., Batavia, N. Y.
Dema Engineering Co., 702 E. Big Bend, St. Louis 22
DeVilbiss Co., Toledo, O.
Dobbins Div.—Chamberlain Corp., Waterloo, Iowa
Gallo Co., 1312 Forest St., Racine, Wis. (built in systems)
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Imperial Brass Co., 1237 W. Harrison St., Chicago
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago
D. B. Smith & Co., 414 Main St., Utica, N. Y.
Spraying Systems Co., 3266 Randolph St., Bellwood, Ill.
Universal Metal Prods. Co., Lowell, Mich.

SPRAYERS, ELECTRIC

Acmeline Mfg. Co., Traverse City, Mich.
Binks Mfg. Co., 3114 Carroll Ave., Chicago
Breuer Elect. Mfg. Co., 5100 N. Ravenswood Ave., Chicago 40
DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn, N. Y.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wicklifle. O.

SPRAYERS, FOGGING

Buffalo Turbine Agr. Equip. Co., Gowanda, N. Y.
Curtis Automatic Devices, Medford, Ind.
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
Gallo Co., 1312 Forest St., Racine, Wisc.
Gard Industries, Inc., 1739 Harding Rd., Northfield, Ill.
Todd Shipyards Corp., 81-16 45th Ave., Elmhurst, N. Y.

SPRAYERS, HAND (spray gun type)

Acmeline Mfg. Co., Traverse Ctiy, Mich.
R. E. Chapin Mfg. Co., Batavia, N. Y.
Dobbins Div.—Chamberlain Corp., Waterloo, Iowa
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Jaeckh Mfg. Co., Cincinnati
Lowell Mfg. Co., 589 E. Illinois St., Chicago
MacCarl Co., 4342 Pearl Rd., Cleveland, O.
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago
D. B. Smith & Co., 414 Main St., Utica, N. Y.
Standard Container, Inc., Rockaway, N. J.
Universal Metal Prods. Co., Lowell, Mich.
Volume Sprayer Mfg. Co., Tulsa, Okla.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

SPRAYERS, HEAVY DUTY

John Bean Mfg. Co., Div. Food Mach. Co., Lansing, Mich.
Buffalo Turbine Agr. Equip. Co., Gowanda, N. Y.
Dobbins Div.—Chamberlain Corp., Waterloo, Iowa
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
Gallo Co., 1312 Forest St., Racine, Wisc.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Hardie Mfg. Co., Hudson, Mich.
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
F. E. Myers & Brothers Co., Ashland, O.
Victor Products Corp., Ranson, W. Va.

SPRAYERS, STEAM

Arnold Laboratories, 1515 W. Glenoaks Blvd., Glendale, Calif.
DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn
Madewell Products, Inc., 3125 E. 7th St., Oakland, Calif.
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago

SQUEEZE BOTTLES (see Bottles, Plastic)

SQUILLS (Rodent Poison)

A-M-R Chemical Co., 985 E. 35th St., Bklyn. 10
Chem. Insecticide Corp., 30 Whitman Ave., Metuchen, N. J.
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis, Minn.
S. B. Penick & Co., 100 Church St., N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
York Chem. Co., 23 Dean St., Bklyn.

STABILIZERS (Emulsion) (see Emulsion Stabilizers)

STABILIZERS (see Foam Stabilizers)

STAINLESS STEEL CLAD EQUIPMENT (see Clad Equipment)

STAINLESS STEEL TANKS (see Tanks)

STAIN REMOVERS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Star Polish Mfg. Co., 400 E. 10th St., N. Kansas City, Mo.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Trio Chem. Wks., 341 Scholes St., Brooklyn
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

STANNOUS CHLORIDE (see Tin Crystals)

STARCH

American Maize Products Co., 250 Park Ave., N. Y.
Archer-Daniels-Midland Co., Minneapolis 2
Corn Products Sales Co., 17 Battery Pl., N. Y.
National Starch Prods., Inc., 750 Third Ave., N. Y. 17
A. E. Staley Mfg. Co., Decatur, Ill.

STARCH, LIQUID

Morningstar-Paisley, Inc., 630 W. 51 St., N. Y.
Penick & Ford, 420 Lexington Ave., N. Y. 17
A. E. Staley Mfg. Co., Decator 60, Ill.

STEARATES (Zinc, Calcium, Magnesium, etc.)

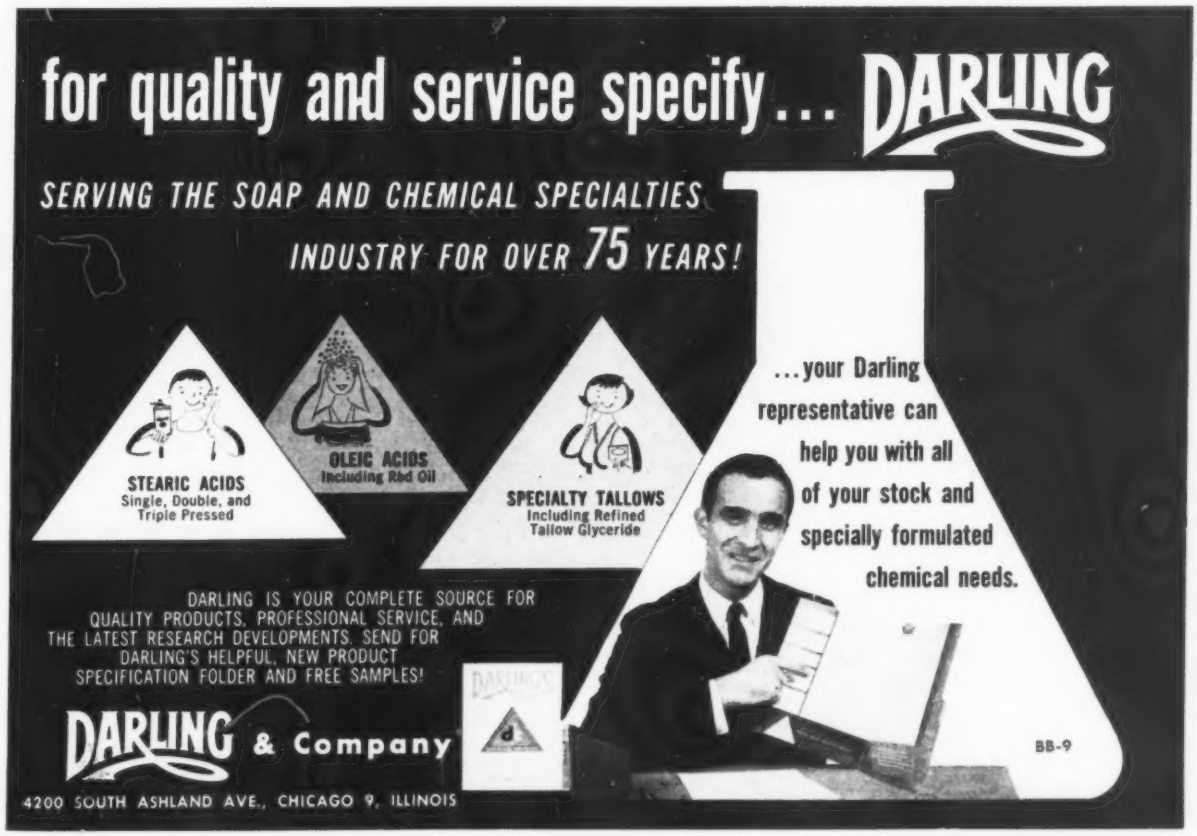
Amsco Sols. & Chems. Co., 4619 Reading Rd., Cincinnati
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals Div., 435 Hudson St., N. Y.
Atlas Powder Co., Wilmington, Del.
Buffalo Sols. & Chems. Co., Box 73, Sta. B, Buffalo
Capital City Prods. Co., 525 W. 1st St., Columbus, O.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Sols. & Chems. Co., Dixie Highway, Louisville, Ky.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Glyco Prods. Div., 417 5th Ave., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 10
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hoosier Sols. & Chems. Co., 1650 Luett Ave., Indianapolis
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Mallinckrodt Chem. Wks., St. Louis, Mo.
Merck & Co., Rahway, N. J.
Metasap Chem. Co., First & Essex Sts., Harrison, N. J.
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
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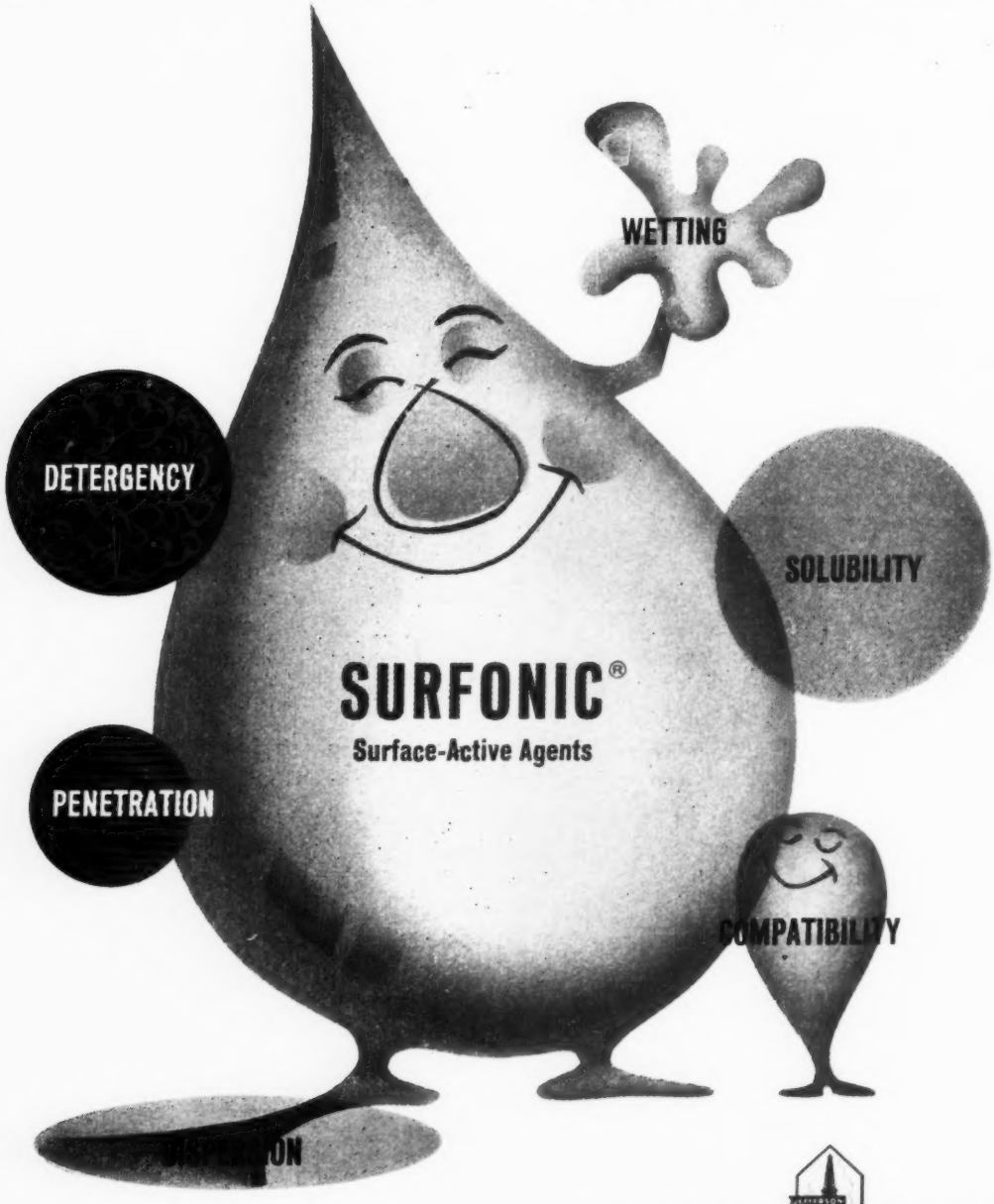
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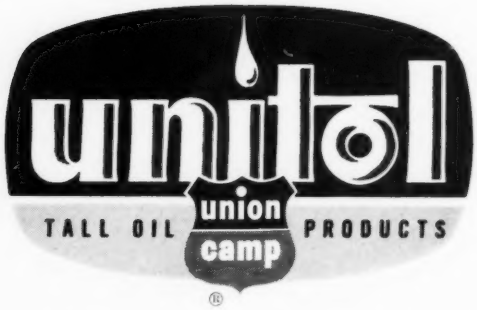
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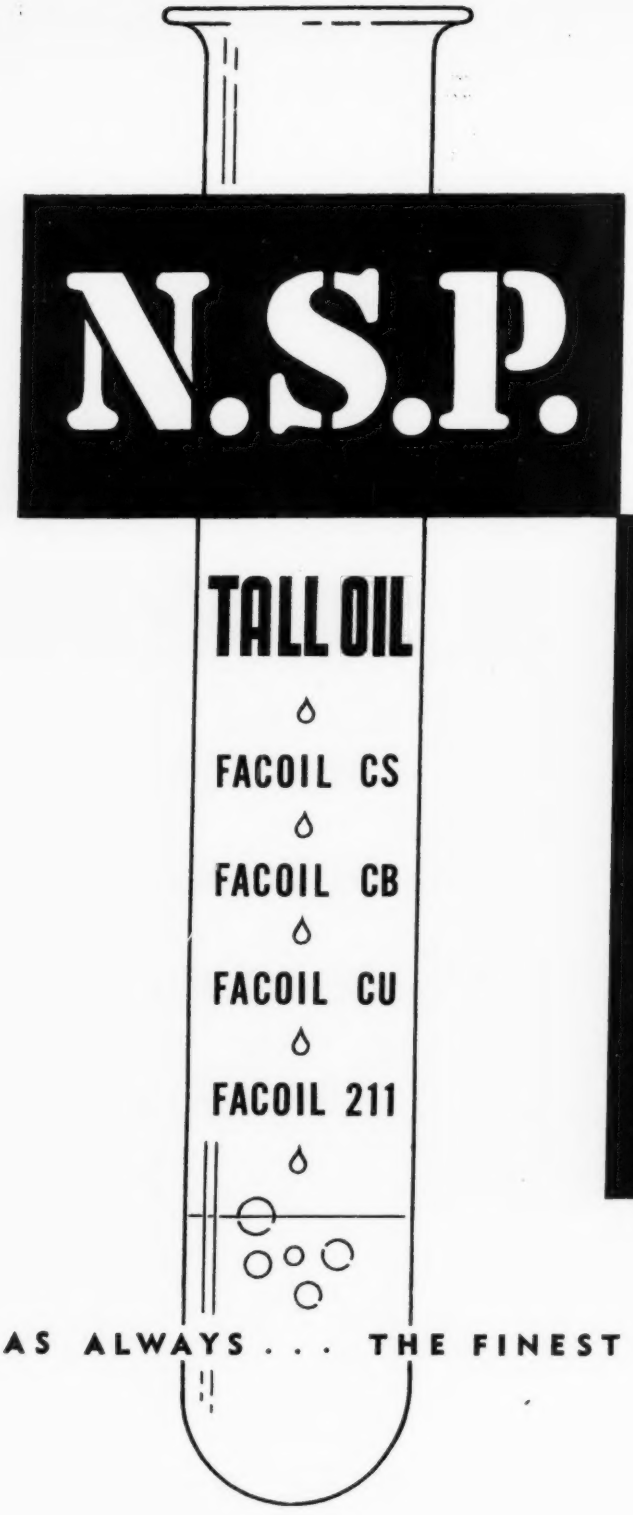
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T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Darling Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Fitzpatrick Bros., 1300 W. 32 Pl., Chicago
Long Island Soap Co., 27 Bridgewater St., Brooklyn
Louisville Butchers' Hide & Tallow Co., Louisville, Ky.
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago
Norco Prods. Co., E. Ontario & Bath Sts., Phila.
Pacific Vegetable Oil Corp., 1145 S. 10th St., Richmond, Calif.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Wilson-Martin Div., Snyder Ave. & Swanson St., Phila.

TALLOW CHIP SOAP (see Chip Soaps)

TANKS (Clad and Stainless Steel)

Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Alsop Engineering Corp., Milldale, Conn.
Bennett Industries, 122 Washington St., Peotone, Ill.
S. Blickman, Inc., 72 Gregory Ave., Weehawken, N. J.
Builders Sheet Metal Works, 108 Wooster St., N. Y. 12
Conn & Co., Warren, Pa.
Craddock Equipment Co., 1507 A St., Wilmington, Del
J. H. Day & Co., Cincinnati 12
Edge Moor Iron Wks., Edge Moor, Del.
Graver Tank & Mfg. Corp., 332 S. Michigan, Chicago
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Inland Steel Container Co., 30 W. Monroe, Chicago
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
J. H. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Lee Metal Prods. Co., Philipsburg, Pa.
Littleford Bros., 453 E. Pearl St., Cincinnati
Lukens Steel Corp., Coatsville, Pa.
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
M.R.M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Chas. Ross & Son, 148 Classon Ave., Bklyn.
Henry Simon Ltd., Cheadle Heath, Stockport, England
Sprout, Waldron & Co., Muncy, Pa.
Struthers-Wells Corp., Warren, Pa.
Young Machy. Co., Muncy, Pa.

TANKS (Wooden)

Atlantic Tank & Barrel Co., North Bergen, N. J.
Conn & Co., Warren, Pa.
Kalamazoo Tank & Silo Co., Kalamazoo, Mich.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J. (Mixing)
New England Tank & Tower Co., Everett, Mass.
Pacific Tank & Pipe Co., 334 Market St., San Francisco
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Sprout, Waldron & Co., Muncy, Pa.
Tippett & Wood, Phillipsburg, N. J.

TAR ACID OIL (see Coal Tar Raw Materials)

TAR ACIDS (High Boiling)

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Baird & McGuire, Inc., Holbrook, Mass.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Merichem Co., 3201 Fannin St., Houston 4, Tex.
Monsanto Chemical Co., St. Louis 24, Mo.
Neville Chemical Co., Pittsburgh
Plastics & Coal Chem. Div., 40 Rector St., N. Y.
Reilly Tar & Chem. Co., Merchants Bank Bldg., Indianapolis
Shell Chemical Corp., 50 W. 50th St., N. Y.
Tar Residuals, Inc., 420 Lexington Ave., N. Y. 17
U. S. Steel Corp., Pittsburgh 30
James Varley & Sons, 1200 Switzer Ave., St. Louis

TARTARIC ACID

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
General Chemical Division, 40 Rector St., N. Y.
Mallinckrodt Chem. Wks., St. Louis 7
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6
Stauffer Chem. Co., 380 Madison Ave., N. Y. 17

TEASEED OIL

Camilli, Albert & Laloue, 15 E. 48th St., N. Y. 17
T. G. Cooper & Co., 2400 E. Venango St., Phila. 34
Geo. Degen & Co., 111 Broadway, N. Y. 6
Eastern Industries, Inc., Ridgefield, N. J.
Pacific Vegetable Oil Corp., 1145 S. 10th St., Richmond, Calif.
E. M. Sergeant Chemical Co., 7 Day St., N. Y.

TERPINEOL (see also Essential Oils)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76—9th Ave., N. Y. 11
Givaudan-Delawanna, Inc., 321 W. 44th St., N. Y.
Glidden Co., Jacksonville, Fla.
Hercules Powder Co., Wilmington, Del.
Heyden Newport Chem. Co., 342 Madison Ave., N. Y. C.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Orbis Prods. Corp., 601 W. 26th St., N. Y. 1
Polak's Frutal Works, 33 Sprague Ave., Middletown, N. Y.
Schimmel & Co., 601 W. 26th St., N. Y. 1
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y.
Verona Aromatics, 26 Verona Ave., Newark 4, N. J.

TESTING LABORATORIES

Carl N. Anderson, 342 Madison Ave., N. Y. 17
Frank O. Hazard, Xenia Rd., Wilmington, O.
Hudson Laboratories, Inc., 117 W. 13th St., N. Y. 11
Hilltop Research Inst., Inc., Miamiville, O.
Industrial Bio-Test Labs., Inc., 1810 Frontaga Rd., Northbrook, Ill.
Kroner Laboratories, 275 Water St., N. Y. 7
LaWall & Harrisson, 1921 Walnut St., Phila., Pa.
Leberco Labs., 123 Hathorne St., Roselle Pk., N. J.
Lodes Aerosol Consultants, Inc., 750 5th Ave., N. Y.
J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Molnar Laboratories, 211 E. 19th St., N. Y.
Donald Price, 17 W. 60th St., N. Y. C.
Reed Research Corp., Mill St., Huntington, Shelton, Conn.
Rosner-Hixson Laboratories, 7737 S. Chicago Ave., Chicago
Scientific Associates, 3755 Forest Park Blvd., St. Louis
Skinner & Sherman Co., 227 California St., Newton, Mass.
Foster D. Snell, 29 W. 15th St., N. Y.
Stillwell & Gladding, 130 Cedar St., N. Y.
U. S. Testing Co., 1415 Park Ave., Hoboken, N. J.
Wells Laboratories, Inc., 25-27 Lewis Ave., Jersey City 6, N. J.
Wisconsin Alumni Research Foundation, Madison, Wis.

TETRAPROPYLENE

Enjay Co., 15 W. 51st St., N. Y. 19
Sun Oil Co., 1608 Walnut St., Phila. 3
Sinclair Petrochem., Inc., 600 Fifth Ave., N. Y.



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Am. Agricultural Chem. Co., 100 Church St., N. Y. C.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y. 6
Hooker Chem. Corp., 60 E. 42nd St., N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Joliet, Ill.
Rumford Chem. Wks., Rumford, R. I.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.

TEXTILE SOAPS and SPECIALTIES

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Antara Chems. Div., 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Chem. Co., 195 21st Ave., Paterson, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emery Industries, 4200 Carew Tower, Cincinnati
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Hercules Powder Co., Wilmington, Del.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Kearny Mfg. Co., Kearny, N. J.
H. Kohnstamm & Co., 161 6th Ave., N. Y. C.
Laurel Soap Mfg. Co., Tioga St., Phila.
Long Island Soap Co., 29 Bridgewater St., Brooklyn
Los Angeles Soap Co., 61 7E. 1st St., Los Angeles, Calif.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
National Milling & Chemical Co., 4601 Flat Rock Rd., Phila. 27
National Southern Products, Tuscaloosa, Ala.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Olin Mathieson Chem. Corp., 745 5th Ave., N. Y. 22
Onyx Oil & Chemical Co., Warren & Morri sSts., Jersey City 2
Original Bradford Soap Wks., West Warwick, R. I.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Prods. Corp., 624 Schuyler Ave., Lyndhurst, N. J.
Rumford Chem. Wks., Rumford, R. I.
Sandoz, Inc., 61 Van Dam St., N. Y.
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Standard Soap Co., 205 S. 2nd St., Camden, N. J.
John T. Sanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., Inc., 2 Wood St., Paterson, N. J.
Union Carbide Chems. Co., 30 E. 42nd St., N. Y. 17
Witco Chemical Co., 122 E. 42nd St., N. Y. 17

TEXTILE SOFTENERS (see Softeners, Textile)

THALLIUM SULFATE

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Berkshire Chemicals, Inc., 420 Lexington Ave., N. Y. 17
Foote Mineral Co., 1609 Summer St., Phila.
Merck & Co., Rahway, N. J.
Robeco Chems., Inc., 25 E. 26th St., N. Y.

THANITE

Hercules Powder Co., Wilmington, Del.

THEATRE SPRAYS (Deodorant Sprays)

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
Eagle Soap Co. Huntington, Ind.
Emulso Corp., 301 Ellicott St., Buffalo, N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good Co., 2107 Susquehanna Ave., Phila.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
I. Schneid, Inc., 765 Trabert Ave., NW, Atlanta, Ga.
Trio Chem. Wks., 341 Scholes St., Bklyn, 6
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis 15

THIOGLYCOLIC ACID

Evans Chemetics, Inc., 250 E. 43rd St., N. Y. 17
Mutchler Chem. Co., 259 Broadway, N. Y. 7
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.

THICKENING AGENTS (see Superfatting Agents)

TIN CRYSTALS (Stannous Chloride)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburgh, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Metal & Thermit Corp., Rahway, N. J.

TITANIUM DIOXIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
E. I. du Pont de Nemours & Co., Wilmington, Del.
Glidden Co., 4301 Hawkins Pt. Rd., Baltimore, Md.
Robeco Chemical, Inc., 25 E. 26th St., N. Y.
Titanium Pigment Co., 111 Broadway, N. Y.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker, Clark & Daniels, 100 Church St., N. Y.

TOILET PREPARATIONS (Private Label) (see also Bath Salts, Shampoos, etc.)

A.M.R. Chem. Co., 985 E. 35th St., Bklyn.
Averil, Inc., 6780 NW 37 Ct., Miami, Fla.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Continental Filling Corp., 123 N. Hazel Ave., Danville, Ill.
Curley Co., 1432 N. Randolph St., Phila. 22
Flam-Haft Laboratories, 8 E. 12th St., N. Y. 3
R. Gesell, Inc., 200 W. Houston, N. Y.
Lightfoot Co., 380 Madison Ave., N. Y. C.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Shores Co., Cedar Rapids, Ia.
John T. Stanley Co., 642 W. 30th St., N. Y.
Zenith Drug, Inc., 1 Vesey St., Newark, N. J.

TOILET SOAP BASE (for Cakes)

Armour & Co., 1355 W. 31st St., Chicago
Duveen Soap Corp., 36-14 35th St., Long Island City 6, N. Y.
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
Peck's Products, 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Standard Soap Co., 805 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago 9

TOILET SOAPS, CAKE (Private Label)

Armour & Co., 1355 W. 31st St., Chicago
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Duveen Soap Corp., 36-14 35th St., Long Island City, N. Y.
Haag Labs., Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Kamen Soap Prods. Co., 233 Broadway, N. Y. 7
Lever Bros. Co., 390 Park Ave., N. Y.
Long Island Soap Co., 29 Bridgewater St., Brooklyn
Lightfoot Co., 380 Madison Ave., N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Cal.
North Coast Soap & Chem. Wks., Seattle, Wash.
Procter & Gamble Co., Cincinnati
Purex Corp., 9300 Rayo Ave., South Gate, Calif.

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Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago

TOOTH PASTE (Private Label)

R. Gesell, Inc., 200 W. Houston St., N. Y.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
John T. Stanley Co., 642 W. 30th St., New York

TOLUENE

Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Eastern States Pet. & Chem. Corp., Houston 12, Tex.
Enjay Co., 15 W. 51st St., N. Y. C.
Gulf Oil Corp., Pittsburgh 30
Inland Steel Co., 30 W. Monroe St., Chicago 3
Koppers Co., Pittsburgh 19
Plastics & Coal Chem. Div., 40 Rector St., N. Y.
Shell Oil Co., 50 W. 50th St., N. Y.
Sun Oil Co., 1608 Walnut St., Phila.
U. S. Steel Corp., Pittsburgh 30

TOXAPHENE

Hercules Powder Co., Wilmington, Del.

TOXAPHENE FORMULATIONS (Bases and Finished Sprays and Powders)

Acock Laboratories, 2700 E. 5th St., Austin, Tex.
American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
Ashcraft-Wilkinson Cod., Trust Co. of Georgia Bldg., Atlanta, Ga.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Central Chem. Co., 49 N. Jonathan St., Hagerstown, Md.
Chapman Chem. Co., 38 Court St., Memphis, Tenn.
Chem. Insecticide Corp., 30 Whitman Ave., Mutchen, N. J.
Chipman Chem. Co., Bound Brook, N. J.
William Cooper & Nephews, 1909 Clifton St., Chicago
Douglas Chem. Co., 620 E. 16th Ave., North Kansas City, Mo.
Durham Chem. Co., 4124 E. Pacific Way, Los Angeles
Eastern States Pet. & Chem. Corp., Houston 12, Tex.
Flag Sulphur & Chem. Co., Tampa, Fla.
Florida Agricultural Supply Co., Box 658, Jacksonville, Fla.
Fresno Agricultural Chem. Co., Fresno, Calif.
General Chemical Div., 40 Rector St., N. Y.
Geigy Agri. Chems., Ardsley, N. Y.
Georgia-Carolina Oil Co., 1403 Sixth St., Macon, Ga.
Hayes-Sammons Co., Missions, Texas
Kwik-Way Chem. Co., Box 2536, San Antonio, Texas
O. E. Linck Co., Route 6 & Valley Rd., Clifton, N. J.
McLaughlin, Gormley, King Co., 1715 S.E. 5th St., Minneapolis
C. J. Martin & Sons, 413 Chicon St., Austin, Texas
Naco Fertilizer Co., Box 858, Charleston, S. C.
Naugatuck Chem. Div., U. S. Rubber Co., Naugatuck, Conn.
Niagara Sprayer & Chem. Div., Middleport, N. Y.
Phoenix Chem. Co., 19th Ave. & Roosevelt, Phoenix, Ariz.
Plainsman Supply Co., Plainview, Texas
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Ralston Purina Co., 835 S. 8th St., St. Louis
Reasor-Hill Corp., Jacksonville, Ark.
Southwest Co-operative Wholesale, 1821 E. Jackson St., Phoenix, Ariz.
Stauffer Chem. Co., 380 Madison Ave., New York
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City
Tyner-Petrus Co., 100 Trenton St., West Monroe, La.
F. H. Vahlsing, Elsa, Texas
Woolfolk Chemical Works, Fort Valley, Ga.

TRIETHANOLAMINE (see Listings under Ethanolamines)

TRIETHANOLAMINE SOAPS

ABC Compounding Co., 1624 Marietta Rd., Atlanta, Ga.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods., 3100 S. Throop St., Chicago 8
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Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 S. Susuehanna Ave., Phila.
Hodag Chem. Corp., 7274 N. Central Park, Chicago
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kranich Soap Co., 54 Richards St., Bklyn.
Old Empire Inc., Mt. Prospect & Verona, Newark, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Standard Soap Co., 205 S. And St., Camden, N. J.
George Stearns Chem. Corp., Madison 4, Wis.
Surfacto-Co., Box 114, Blue Island, Ill.
Trio Chemical Wks., 341 Scholes St., Bklyn. 6

TRIETHANOLAMINE SULFONATES

Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Pilot California Co., 215 W. 7th St., Los Angeles, Calif.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Stepan Chem. Co., 427 W. Randolph St., Chicago
Tennessee Corp., 617 Grant Ave., Atlanta, Ga.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Witco Chem. Co., 122 E. 42nd St., N. Y. 17

TRIPOLI (see Pumice)

TRIPOLYPHOSPHATES (see Sodium Tripolyphosphate)

TRIPROPYLENE

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Atlantic Refining Co., 260 S. Broad St., Phila.
Continental Oil Co., 630 5th Ave., N. Y. 30
Enjay Co., 15 W. 51st St., N. Y. 19
Sun Oil Co., 1608 Walnut St., Phila. 3

TRISODIUM PHOSPHATE

Amer. Agricultural Chem. Co., 100 Church St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hooker Chemical Corp., 60 E. 42nd St., N. Y.
Monsanto Chemical Co., St. Louis 24, Mo.
Olin Mathieson Chem. Corp., Joliet, Ill.
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chemical Corp., Richmond, Va.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y.

TUBE FILLING MACHINERY (see Filling Machy., Tube)

TUBES (Collapsible Tubes)

Aluminum Company of America, Pittsburgh
Art Tube Co., Irvington, N. J.
Bradley Sun Division, 181 Long Ave., Hillside, N. J.
National Collapsible Tube Co., Providence, R. I.
Peerless Tube Co., 58 Locust Ave., Bloomfield, N. J.
Sheffield Tube Co., New London, Conn.
Wheeling Stamping Co., 2116 Water St., Wheeling, W. Va.
White Metal Mfg. Co., 1012 Grand St., Hoboken, N. J.
A. H. Wirz, Inc., 2316 W. Townsend St., Chester, Pa.

TUBES and TUBING (Polyethylene, Aectate, Plastic, etc.)

American Can Co., 100 Park Ave., N. Y.
Anchor Plastics Co., 36-36 36 St., Long Island City, N. Y.
Lusteroid Container Co., So. Orange, N. J.
Hydrawlik Co., 131 E. 1st Ave., Roselle, N. J.
Hygienic Tube Co., Newark, N. J.
A. H. Wirz, Inc., 2316 W. Townsend St., Chester, Pa.

TUNG OIL

Archer-Daniels-Midland Co., Minneapolis, Minn.
Balfour Guthrie & Co., 67 Wall St., N. Y. 5
Brazilian Industrial Oils, 75 West St., N. Y. 6
Geo. Degen & Co., 111 Broadway, N. Y. 6
W. R. Grace & Co., 7 Hanover Sq., N. Y. 5
Internatio Rotterdam, Inc., 61 Broadway, N. Y. 6, N. Y.
Pacific Veg. Oil Corp., 1145 S. 10th St., Richmond, Calif.
Welch, Holme & Clark Co., 1 Hudson St., N. Y. 13
Werner G. Smith, Inc., 1730 Train Ave., Cleveland 13
G. A. Wharry & Co., 125 Broad St., N. Y.
Woburn Chemical Corp., Harrison, N. J.

TURPENTINE

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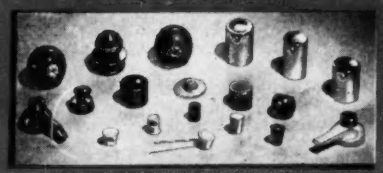
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Mekon® A-20	190—195	3—5	Amber-6 Max.	0—0	0—0	Microcrystalline Hard & Brittle
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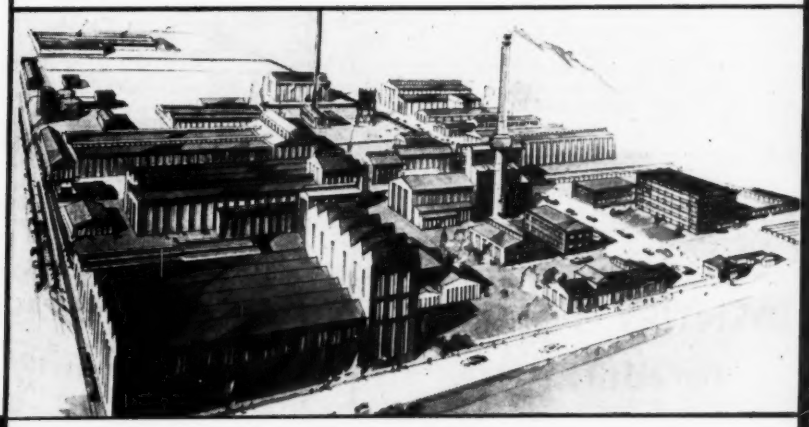
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International Wax Ref. Co., E. Hawthorne Ave., Valley Stream, N. Y.
Mercantile Wax Div., 595 Madison Ave., N. Y.
Moore & Munger, 33 Rector St., N. Y.
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Pennotex Oil Corp., 29 Broadway, N. Y.
Frank B. Ross Co., 6-10 Ash St., Jersey City, N. J.
Wm. H. Scheel, Inc., 38 Franklin St., Bklyn. 22
Semet-Solvay Petrochemical Div., 40 Rector St., N. Y.
Shanco Plastics & Chemicals, Tonawanda, N. Y.
Shell Oil Co., 50 W. 50th St., N. Y. 20
Sherwood Refining Co., Englewood, N. J.
Smith & Nichols, Inc., 620 Central Ave., Carlstadt, N. J.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y.
Strahl & Pitsch, 141 Front St., N. Y.
Strohmeyer & Arpe Co., 139 Franklin St., N. Y. 13
Swift & Co., Hammond, Ind.
Van Dyk & Co., Main & Williams St., Belleville, N. J.
Warwick Wax Co., 750 3rd Ave., N. Y. C.
G. S. Ziegler & Co., Great Neck, N. Y.

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Air Reduction Chem. Co., 150 E. 42nd St., N. Y. 17
M. Arqueso & Co., 441 Waverly Ave., Mamaroneck, N. Y.
Arkansas Chem. Co., Malvern, Arkansas
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Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Cornelius Wax Refining Corp., U. S. #1, Edison, N. J.
Dow Chem. Co., Midland, Mich.
Dura Commodities Corp., 20 Vesey St., N. Y.
Eastman Chem. Prods., Inc., Kingsport, Tenn.
Geigy Industrial Chemicals, Ardsley, N. Y.
Hostawax Co., 350 5th Ave., N. Y. 1
International Wax Refining Co., E. Hawthorne Ave., Valley Stream, N. Y.
Marchon Prods., White Haven, Cumberland, England
Mercantile Wax Div., 595 Madison Ave., N. Y. 22
Monsanto Chemical Co., St. Louis 24, Mo.
Moore & Munger, 33 Rector St., N. Y.
Nopco Chem. Co., 60 Park Pl., Newark 1, N. J.
Pennotex Oil Corp., 29 Broadway, N. Y.
Robeco Chemicals, Inc., 25 E. 26 St., N. Y. 10
Frank B. Ross Co., 6-10 Ash St., Jersey City, N. J.
William H. Scheel, Inc., 38 Franklin St., Bklyn.
Smith & Nichols, Inc., 620 Central Ave., Carlstadt, N. J.
Semet Solvay Petrochemical Div., 40 Rector St., N. Y.
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Stauffer Chem. Co., 380 Madison Ave., N. Y.
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Strohmeyer & Arpe Co., 137 Franklin St., N. Y. 13
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Chemagro Corp., 437 5th Ave., N. Y. 16
Chipman Chem. Co., Bound Brook, N. J.
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Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
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Fuld Bros., 702 S. Wolfe St., Baltimore
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James Good Co., 2107 Susquehanna Ave., Phila.
B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland
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Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Hub States Chems. & Equipment, 1255 N. Windsor St., Indianapolis
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis

Michigan Chemical Corp., St. Louis, Mich.
Monsanto Chemical Co., St. Louis 24, Mo.
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S. B. Penick & Co., 100 Church St., N. Y. 8
Pennsalt Chems. Corp., 3 Penn Center, Phila. 2
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
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Shell Chem. Corp., 50 W. 50th St., N. Y. 20
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Alcohol D.C.A.

Aldehyde Myrac—Lasting, lemon-floral with a sweet background.

Aldehyde Myrmac—An Orange Aldehyde type, strong and persistent.

Ambrain—The concentrated heart of Labdanum, without waxes or gum.

Amyl Cinnamic Aldehyde (Flomine Coeur)

Arras Aldehyde—Lively, tart, orange-neroli odor, strong and lasting in soap.

Benzoin Synthetic #63—An excellent replacement for natural Benzoin.

Benzyl Cinnamate

Benzyl Salicylate

Bicyclohexanone P—Floral, woody, sweet Wood-Violet note.

Cedarwood Oil White

Cedrenol—Sweet, woody, rich—very lasting and stable in soap.

Cedrenyl Acetate—Lively, balsamic, sweet and lasting.

Cedrol

Cedrone

Citral Dimethyl Acetal

Citronellol Coeur

Citronellyl Acetate

Citronellyl Formate

Citronellyl Methyl Acetal

Citronellyl Propionate

Dimethyl Benzyl Carbinol—Flowery, valuable in floral bouquets, especially lilac.

Dimethyl Benzyl Carbinyl Acetate—Rich, Roseotto note, very floral, powerful and sweet in soap.

Dimethyl Octanol

Dimethyl Octanyl Acetate

Dimethyl Phenyl Ethyl Carbinol

Elvinol—Suggests Linalool and Dimethyl Benzyl Carbinol. Sweet floral odor.

Elvinyl Acetate—Bergamot-like. More powerful and lasting. Sweet and refreshing.

Ethyl Citronellol

Eugenyl Phenyl Acetate

Fructone—Remarkably powerful fruit character for soap.

Galbanum Coeur

Gelsone—Refreshing and long lasting Jasmine note.

Geralex

Geraniol Absolute

Geraniol C.D.

Geraniol Coeur

Geranoxide—Rosy, good in soap.

Geranoxy Acetaldehyde

Geranyl Acetate Coeur

Geranyl Propionate

Girella—Inexpensive fresh spicy character suitable for use directly in soap products.

Hyacinth Body—Very powerful nasturtium-hyacinth note.

Hyacinth Body #3

Hydratropic Acetate

Hydratropic Alcohol—Very flowery and lasting in soap.

Hydratropic Aldehyde

Hydratropic Aldehyde Dimethyl Acetal

Ionone Extra C-1

Ionone Alpha Methyl

Ionone Gamma Methyl #218

Ionone Methyl C-60

Ionone Methyl Gamma C-60

Irene Methyl Gamma

Isobutyl Furyl Propionate

Iso Cyclo Citral—Has an unusual dank green odor. It imparts a growing-plant quality to divergent floral groups such as the rose, hyacinth, and lilac.

Iso Jasmone—Very powerful Jasmine body—very lasting in soap.

Jessemal—Rich Jasmine note, excellent in soap.

Labdanum Resin Absolute

Lavender Ketone—Yields a high lavendacious note. Particularly suited for use in white soaps.

Lilanthol—Powerful, flowery, muguet. Very stable.

Linalool B Extra

Linalool Coeur

Linalyl Acetate 90-92%

Methyl Cinnamate

Methyl Diphenyl Ether—A Rosy, Leafy odor. Lasts well in soap.

Muguol—Particularly suited for Muguet and floral compositions.

Myrrh Coeur (Resin Absolute)

Nerol

Olibanum Coeur (Resin Absolute)

Opoponax Resin Absolute

Patchone—Woody, Patchouli note, exceptionally suited for soap work.

Petitgrain Absolute

Phenyl Ethyl Acetate

Phenyl Ethyl Alcohol

Phenyl Ethyl Benzoate

Phenyl Ethyl Cinnamate

Phenyl Ethyl Propionate

Pseudo Linalyl Acetate—Refreshing Bergamot and Lavender-like note; plus a slight Nutmeg suggestion. Our tests with Pseudo Linalyl Acetate in soap have shown that it is much more stable, more powerful and more flowery than Linalyl Acetate.

Pseudo Linalyl Acetate Technical—Same as the above product with a wider cut of fractions.

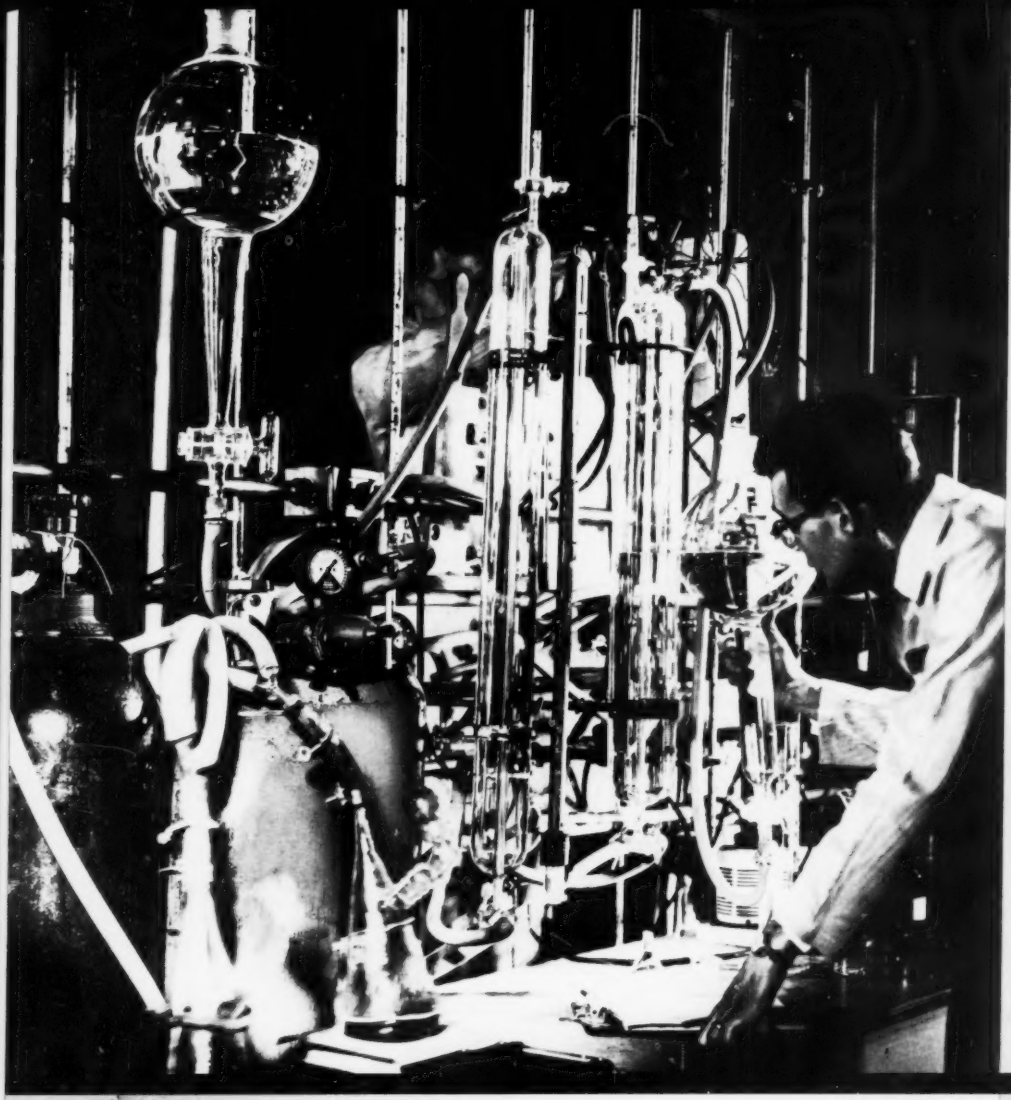
Styrax Clarified Extra

Syringial—Green, leafy-note with a "melon" suggestion.

Tetrahydro Muguol—Similar to Muguol (see above), except that this article is predominately more like Linalool.

Trans Decahydro Betanaphthol—Useful in Rose and Jasmine floral type odors. It has the faculty of diffusing other odors.

Vertenex—Sweet, rich and woody. It blends very well with any Ionone and enriches the odor quality.



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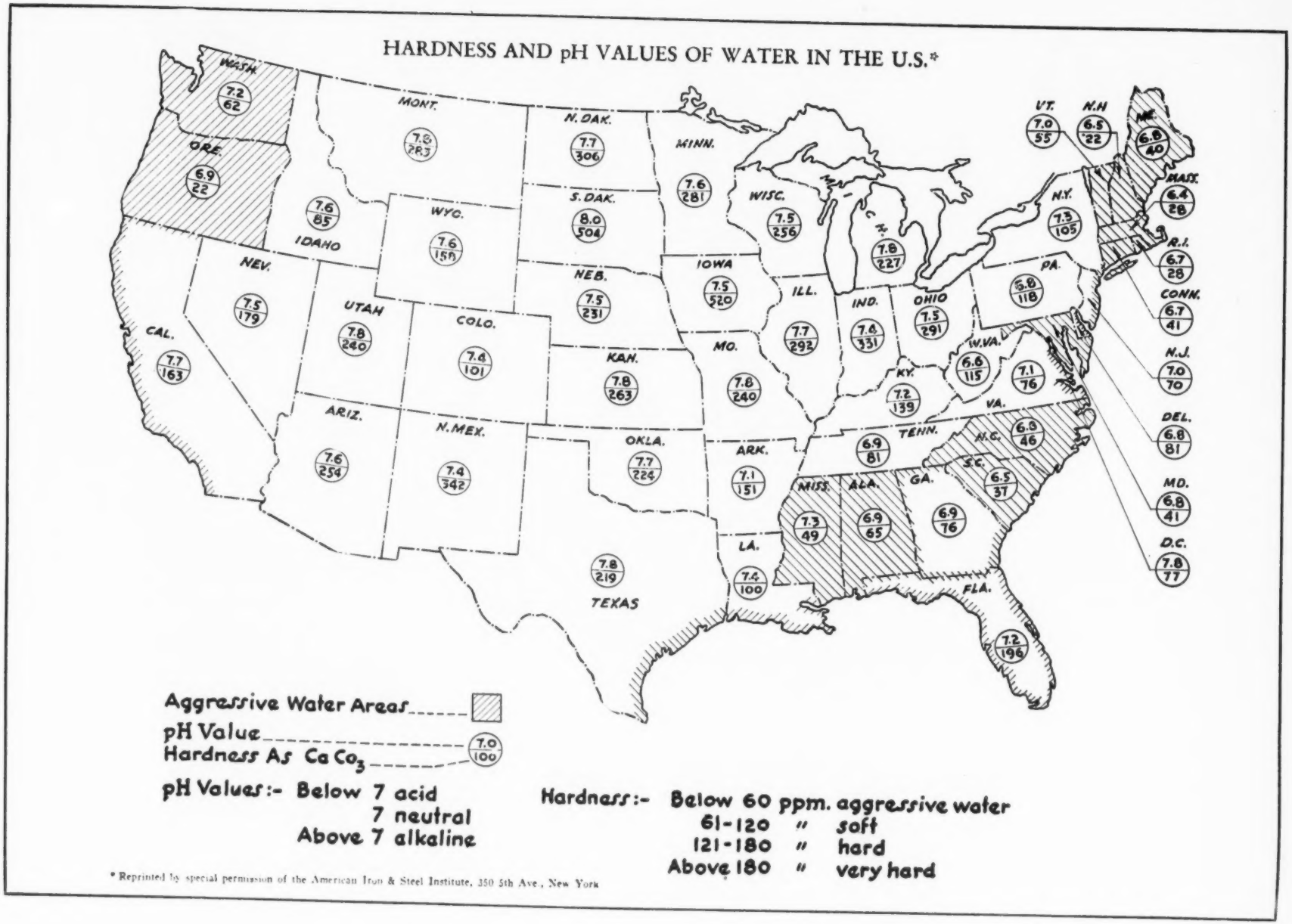
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COCKROACH SPRAY TEST METHOD

Official Method of the Chemical Specialties Manufacturers Association For Evaluating Cockroach Sprays

THE National Association of Insecticide & Disinfectant Manufacturers* sponsored a fellowship at the Ohio State University from 1937 to 1942 for the study of testing methods suitable for evaluating liquid household insecticides against crawling insects. This project was directed by Prof. F. L. Campbell and employed as investigators at various times were E. N. Woodbury, C. S. Barnhart, E. H. Glass, and J. M. Hutsel. Results of these studies have been summarized in various published articles[1,2,3], and much valuable information was obtained on both rearing and test methods. In spite of the fact that a number of test methods were devised and employed on both bedbugs and cockroaches, none of the methods received widespread official recognition. In 1943 Henderson reported on a liquid cockroach spray testing method being employed by the Production and Marketing Administration of the U.S. Department of Agriculture. From 1943 to 1946 crawling insect test method studies were conducted with CSMA (then NAIDM) support by F. O. Hazard, Wilmington College, Wilmington, Ohio, with special emphasis on the study of the Henderson method. Both liquid and powder methods for cockroach testing have been published by Hazard[5,6] and L. J. Bottimer[7] on the current method used by the Insecticide Division Livestock Branch, Production and Marketing Administration, United States Department of Agriculture, for the testing of liquid cockroach sprays.

The method here described is a composite of the Bottimer and Hazard method with certain modifications developed through cooperative tests between various laboratories of the CSMA (then NAIDM), and is thought to offer a satisfactory means of determining the relative efficiency of contact insecticides in oils as cockroach sprays. As a biological test it is subject to variations that accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative effectiveness of different insecticides, the test is run in conjunction with the Official Test Insecticide, which is designated as the basis of comparison.

II. APPARATUS

A—Reference Insecticide. The reference insecticide shall be the current Official Test Insecticide (100 mg. pyrethrins/100 ml. de-odorized insecticide base oil) prepared by the Chemical Specialties Manufacturers Association, Inc. every two years. The OTI must not be diluted or changed in any manner.

B—Test Insect. The test insects shall be healthy, normal undeformed adult males of the German cockroach *Blattella germanica* (Linn.). Recently emerged adult males, e.g., whose pigmentation is not dark, shall not be used for testing purposes. It is recommended that the adult stage shall have been attained at least three days prior to testing.

C—Rearing Room. This room may be of any convenient size, constructed so as to be free from strong drafts and maintained at a temperature of 75 to 85°F. and a relative humidity of 30 to 50 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odor.

D—Testing Room. This room may be of any convenient size permitting adequate space for the operator to handle the test efficiently. While tests are being conducted this room shall be maintained at a temperature of 78 to 82°F. It is suggested that relative humidity be held between 30 and 50 per cent.

E—Spray Chamber. The spray chamber shall be a box-like structure of solid material measuring 18 inches wide, 18 inches long and 25 to 30 inches in height. The floor of the chamber shall be covered with ½ inch mesh wire hardware cloth. Suitable guides shall be fastened to the chamber floor to permit the centering of the treatment container directly beneath the nozzle of the spray gun. The top of the chamber shall be open and fitted with suitable braces and mounting for the spray atomizer. The front wall of the chamber may be in the form of a sliding door permitting convenient access to the interior of the chamber. The chamber shall rest on a stand placing it at the proper height for convenient operation of the test.

F—Atomizer. The atomizer to be employed is the DeVilbiss Special No. 5004, which is the same atomizer specified for the Peet-Grady Test. This atomizer shall be operated with air free of oil, dust particles, or condensed moisture, and maintained at a constant pressure of 6.0 plus or minus 0.5 lbs. per sq. in. The atomizer when operated at a pressure of 12.5 plus or minus 0.5 lbs. per sq. in. shall deliver 12 ml. of OTI in 24 seconds (tolerance plus or minus 1 second) and this should be checked frequently. The atomizer shall be firmly mounted in a manner to permit adjustment and shall be arranged with the barrel in a verticle position and centered with the nozzle tip 28 inches above the bottom of the treatment container which rests on the chamber floor. The intake tube of the atomizer shall be bent at a right angle, adjusted with the open end pointing toward the floor and of sufficient length to permit the spray vials to be held in place without interfering with the spray cone.

G—Treatment Container. The treatment container shall be a screen bottomed container 3½ inches in diameter with 3 inch side walls. Sixteen mesh wire screen shall be soldered in place to form the bottom of the container in such a manner that the entire bottom is completely open. Ordinary tin cups of the proper dimensions with handles removed and the solid bottoms replaced by wire screening have been found useful as test containers.

H—Recovery Dishes. Glass crystallizing dishes measuring 125 millimeters in diameter and 65 millimeters high shall be employed as recovery cages. The bottoms of the recovery dishes shall not be covered with filter paper or other material. Sixteen mesh wire screen covers may be employed as recovery dish covers during the 48-hour holding period following spray application in order to prevent the entry of wild cockroaches.

III. PROCEDURE

A—Rearing of Test Insects. Any suitable method permitting the production of large numbers of the test insect under controlled conditions of temperature and humidity as previously described may be employed. The rearing technique described by Woodbury and Barnhart[2], which makes use of a brood chamber containing adult females from which large number of first instar nymphs may be collected at frequent intervals, has been successfully used in a number of laboratories. All molded food, dead females and empty egg cases should be removed weekly. Wild cockroaches shall not be used and all test

*Known as the Chemical Specialties Manufacturers Association since 1950.

insects shall have been reared under uniform conditions.

B—Food. Until the time of testing, the cockroaches shall be provided at all times with food and water. The standard food shall be Dog Chow Checkers, manufactured by the Ralston Purina Co., St. Louis, Missouri, or equivalent.

C—Test Procedure. Adult male cockroaches shall be isolated in recovery dishes or other suitable containers from the cultures in groups of 20 by means of a suction device, by anesthetizing them with carbon dioxide gas or any other suitable method which does not injure them. In selecting the test insects every effort shall be made to obtain uniform test groups.

Air shall pass continuously through the atomizer at the prescribed pressure during the entire series of tests. Prior to application of test samples, the gun shall be thoroughly cleaned with a suitable solvent such as acetone and shall be primed with the spray solution to be applied. Spraying of individual test groups shall be effected by bringing an accurately measured amount of the test spray contained in a vial in contact with the atomizer intake tube.

Immediately before spray application the cockroaches shall be transferred to screen-bottomed treatment containers. These containers shall be free from all traces of insecticides and shall have the entire inner wall surface suitably oiled or greased to prevent the escape of the insects and to confine them to the container floor. The treatment container shall be centered on the spray chamber floor directly below the atomizer nozzle and the spray applied as described above. Prior to spray application the treatment container shall be agitated sufficiently to distribute the test insects uniformly over the container floor. The treatment container shall be removed from the spray chamber 30 seconds after the start of spray application. The test insect shall be immediately transferred from the treatment container to the recovery dish. Treated cockroaches shall be held under rearing room conditions throughout the 48-hour observation period and shall receive neither food nor water.

In evaluating a test sample a minimum of 10 individual test groups shall be run for the test spray in conjunction with 10 test groups receiving the OTI. An equal number of replicates shall be made for members of any given test series on a given test day. The dosage employed shall be the same throughout a given series of tests and of such magnitude as to result in an average of 70 per cent to 90 per cent of the insects dead and moribund at 48 hours with the OTI. Cooperative tests among CSMA laboratories have shown the required dosage to be 0.5 to 0.9 ml.

D—Assembly and Evaluation of Data. Evaluation of test samples shall be made on the basis of observations taken 48 hours after spray application, at which time the percentage of test insects normal, moribund, and dead shall be determined. Any insect showing signs of life but incapable of locomotion shall be considered as moribund. Similar records taken at 24 hours or at intervals longer than 48 hours may be of interest in critical studies. It is recommended that if the test insects are to be held under observation longer than 48 hours they be furnished food and water at the end of the initial 48 hour observation period. Insects that withstand insecticide treatments shall be destroyed and in no case returned to the stock cultures or employed in further tests. In cases of semi-concentrate sprays or sprays of especially high toxicity to cockroaches they shall be tested by the above method as recommended by the manufacturer. For example, if a manufacturer claims his product to be three times as effective as the standard (OTI), the spray shall be diluted at the rate of one part of the spray with two parts deodorized insecticide base oil by volume prior to testing. The basis of comparison shall be the average percentage dead and moribund of the test sample as compared with that of the OTI. In reporting the test results the test sample shall be reported as "meeting the standard" if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 5 percentage points less than that of the OTI employed in conjunction with it. In no case shall actual numerical values be reported officially or any letter grade designations be assigned to the test samples as a measurement of their effectiveness against cockroaches. The accompanying table records the results of a typical series.

IV. CONDITIONS FOR OFFICIAL EVALUATION

A—The test shall be conducted in accordance with the procedure previously described.

B—Twenty test groups of insects, numbering 20 cockroaches each (10 test sample, 10 OTI) shall be employed in making official evaluation.

C—The dosage shall be constant throughout a given series of tests and of such magnitude as to give an average of from 70 to 90 per cent of the OTI treated cockroaches dead and moribund 48 hours after spray application.

D—The toxicity of the unknown sample shall be reported as meeting the standard if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 5 percentage points less than that of the OTI run in conjunction with it. In cases of semi-concentrate sprays or sprays of especially high toxicity to cockroaches, they shall be tested as recommended by the manufacturer. In no case shall numerical values be reported or any letter grade designations be assigned to the test samples as a measurement of their toxicity to cockroaches.

References

(1) Woodbury, E. N., 1938—Test Methods on Roaches—Soap and Sanitary Chemicals, Vol. 14, No. 8, pp. 86, 87, 88, 89, 90, 107, 109.

(2) Woodbury, E. N., and Barnhart, C. S., 1939—Tests on Crawling Insects—Soap and Sanitary Chemicals, Vol. 15, No. 9, pp. 93, 95, 97, 99, 101, 103, 105, 107, 113.

(3) Campbell, F. L.; Barnhart, C. S. and Hutzel, J. M., 1941 Tests on Crawling Insects — Soap and Sanitary Chemicals, Vol. 17, No. 7, pp. 105, 106, 107, 109, 111, 113, 115; Vol. 17, No. 8, pp. 105, 107, 109, 111, 113, 115, 121.

(4) Henderson, L. S., 1943 — A Roach Testing Method — Unpublished report, U.S.D.A., Insecticide Testing Laboratory, Beltsville, Md.

(5) Hazard, F. O., 1943 — Liquid and Powdered Methods for Roach Testing—Soap and Sanitary Chemicals, Vol. 21, No. 6, pp. 126, 127.

(6) Hazard, F. C., 1945—Modifications of the Liquid Roach Method—Soap and Sanitary Chemicals, Vol. 21, No. 12, pp. 159, 167.

(7) Bottimer, L. J., 1945 — Roach rearing and Testing — Soap and Sanitary Chemicals, Vol. 21, No. 12, pp. 151, 153, 155, 157, 159.

EXAMPLE OF TEST DATA

0.7 ml. Dosage by CSMA Roach Test Method

Per Cent Dead and Moribund 48 Hours

Test	*Date*	*OTI*	*Spray A*	*Spray B*	*Spray C*
1	5/13/46	90	85	100	100
2	5/13/46	85	75	45	90
3	5/13/46	30	50	55	100
4	5/13/46	65	70	40	100
5	5/13/46	100	85	65	100
6	5/13/46	75	75	85	95
7	5/16/46	80	85	35	100
8	5/16/46	65	70	65	100
9	5/16/46	95	90	30	95
10	5/16/46	80	45	60	100
Average		76.5	73.0	58.0	98.0

Reported as follows: Spray A—Meets Standard; Spray B—Does not meet Standard; Spray C—Meets Standard.

THE PEET-GRADY METHOD

Official Method of the Chemical Specialties Manufacturers Association for Evaluating Liquid Household Insecticides, Latest Revision*

THE Peet-Grady Method was adopted as an official test in 1932, and has since been improved in certain details, all improvements have been officially accepted after thorough investigation by the CSMA Insecticide Scientific Committee. Inquiries regarding the method should be addressed to the chairman of this Committee. This method of test is a means of determining the relative efficiency of contact insecticides dissolved in fly spray base oils suitable for household and industrial use. The method does not apply to cattle sprays having viscosities materially higher than those of fly spray base oils. As a biological test it is subject to variations which accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative effectiveness of different insecticides, the test is designed to be used in conjunction with the "Official Test Insecticide" as the basis of comparison.

Two methods, or procedures, are permitted. The small group method is substantially the same as outlined at the time the test was adopted in 1932 while the large group method was adopted officially in 1938. Both methods are being used extensively, and if correctly employed, evaluation by either test may be expected to be in reasonable agreement.

II. APPARATUS

A. Reference Insecticide: The reference insecticide shall be the current Official Test Insecticide (OTI) prepared and sold by the CSMA, 50 E. 42nd Street, New York 17, New York. The OTI is carefully standardized by both biological and chemical analysis and it must not be diluted or changed in any manner. References to the OTI (other than in this presentation) should identify the OTI by date.

B. Atomizer: The Special Atomizer No. 5004, constructed by the De Vilbiss Co., Toledo, O., must be used, preferably with the DeVilbiss No. 631 cut off. This atomizer shall be operated with air free of contaminants and maintained at a constant pressure of 12.5 ± 0.5 pounds per sq. in. measured by a gage of not more than 30 pounds capacity or a manometer. The atomizer shall deliver 12 cc. of OTI in 24 seconds (tolerance ± 1 second) and this should be checked frequently. Atomizers failing to meet this test should be repaired by the manufacturer or replaced.

C. Test Insect: The test insect shall be the adult house fly (*Musca domestica L.*) reared from a strain mixed under the supervision of the CSMA. Flies in test groups shall be not less than 3 nor more than 6 days old at the time of testing, and must meet the Conditions for Official Evaluation, Section IV.

D. Fly Cages: Cages of any convenient type may be used if they provide at least 1 cubic inch of space per fly and at least 2 sides and the top are screened. The floor of the cage preferably is detachable, to facilitate cleaning and inserting a paper floor covering. The cages are constructed of wood or other suitable material and fly wire screening, and are fitted with a sleeve opening, rubber membrane, or a door.

E. Rearing Room: This room may be of any convenient size constructed so as to be free from strong drafts, and maintained at a temperature of 82 ± 2 degrees Fahrenheit and relative humidity of 50 ± 5 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odors and gases from fermenting media.

F. Testing Room: This room may be of any convenient size capable of holding the standard Peet-Grady Chamber and permitting adequate additional space for the operator to handle the test efficiently. While conducting tests, this room shall be maintained at a temperature of 75 to 85 degrees Fahrenheit. It is suggested that relative humidity be held between 40 and 70 per cent. Since the exhaust fan of the chamber will move relatively large quantities of air, the temperature of the air entering this room should be approximately that specified above.

G. Peet-Grady Test Chamber: The Test Chamber shall be rigidly constructed of wood, metal, or other suitable material. The inner surface shall be smooth, impervious to the usual household type of insecticide, and as free from cracks, projections, ledges, etc., as possible. The chamber shall be a 6-ft. cube by internal measurements, with a tolerance of plus or minus 1 in. for any dimension. One wall shall contain a tight-fitting door large enough for a man to enter conveniently, with the interior side flush with the wall when closed. One or more of the walls, or the ceiling, shall contain an observation window, preferably on two opposite walls. Illumination is provided by means of a glass window in the ceiling, above which is placed an electric light of such intensity as to permit flies to be observed easily. An opening covered with 10 or 12-mesh wire screen shall be connected to an exhaust fan duct and the size and the location of this opening in relation to ventilation openings in the wall must be such that thorough ventilation of the chamber is obtained. Preferably, the exhaust opening should be 1 sq. ft. or larger and located in or near the ceiling. Air inlet openings may be ports approximately 6 x 6 in. in size, covered with screen on the inside and provided with tight fitting hinged covers on the outside. Four ports located near the 4 lower corners, or 8 ports located near both the 4 upper and 4 lower corners are satisfactory, but the ventilation ports should not be on the same level as the exhaust port. The entrance door may be used alone or in conjunction with the ventilation ports if a screen door is provided and thorough ventilation of the chamber is obtained. If the temperature of the air used to ventilate the chamber is lower than 80°F., heaters may be used to obtain the temperature of 82 ± 2°F. required during the test period. Such heaters must be removed before a test is started. Openings shall be provided for the introduction of the insecticide; these must be so constructed and so located that uniform distribution of the spray is effected without undue ventilation of the chamber. These openings may be round 1 in. holes located not less than 6 in. or more than 12 in. from the ceiling and 18 in. from the nearest corner on each wall, or a single hole may be provided in the center of each wall 6 to 12 inches from ceiling.

H. Exhaust Fan: An exhaust fan moving not less than 1,000 cu. ft. of air through the chamber per min. shall be used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

I. Insecticide Paper: Unsized, nonglazed absorbent paper, such as brown kraft or gray bogus, shall be used to cover the chamber floor. Two overlapping sheets of 36-40 in. width or one sheet of 6 ft. width may be employed. No special weight is specified although 60-80 lb. gray bogus paper has been found excellent.

J. Apparatus for Picking Up Flies: Any convenient means of picking up

*Chemical Specialties Manufacturers Association, 50 E. 42 Street, New York, New York.

the paralyzed flies without injuring or appreciably disturbing them may be used. If a vacuum device is used, it must produce gentle suction, have a sufficiently large receptacle to prevent crowding of the flies, and it shall be cleaned after each test with the same materials used in cleaning the chamber.

III. PROCEDURE

A. Rearing and Handling Flies: In this procedure, eggs are transferred to medium suitable for the development of larvae, the pupae are collected from the medium and placed inside of cages, and the adult flies emerge and remain in these cages until the day of testing. A culture is defined as all adults resulting from the seeding of eggs collected at one time on a given date.

Larval medium: The preferred containers are cylindrical glass battery jars approximately 6 in. in diameter and 9 in. high. For one jar, mix 340 gm. (12 oz.) dry CSMA standard dry larval medium (1) with approximately 750 cc. of an aqueous suspension containing 15 gm. moist cake yeast and 10 cc. nondiastic Diamalt, (2). Mix thoroughly until a loose, fluffy medium is obtained, transfer it to the battery jar without packing, cover with cloth and set in the insectary. The amount of suspension required for best rearing results will need be determined in each laboratory and it may be varied in order to prevent mold growth. It is suggested the medium be prepared in the late afternoon of the day before egg collection.

Eggs: Eggs are collected for a period not longer than 16 hours from food dishes or other oviposition media in cages containing mature flies not more than 8 days old. It is suggested that fresh oviposition medium be placed in fly cages in the late afternoon and eggs be collected early on the following morning. After collecting the eggs they must be measured and seeded without delay. Wash all the eggs together in tap water at room temperature and measure 2000 eggs as accurately as possible. This may be done by allowing the eggs to settle in a calibrated pipette or graduate (0.1 cc. settled eggs contains about 700) or the eggs can be filtered and measured in calibrated pits or cells. Use 10 cc. tap water to measure and to scatter the eggs in a pit or trench 0.5 in. deep and located in the center of the surface of larval medium. Cover the eggs with loose medium, replace the cloth covers on the jars, and set jars in the insectary so that at least 1.5 in. separates each jar to permit free air circulation. The maximum temperature in the jar (about 3 days later) must not exceed 130°F. Under normal conditions more than 85 per cent of the eggs should hatch within 36 hours of the time they are laid.

Pupae: Mature larvae migrate to the top portion of the medium and normally all larvae will have pupated by the seventh day after seeding eggs. When this occurs, the portion of medium containing pupae may be loosened, poured into a shallow tray, and air dried at room temperature. An electric fan may be used to hasten drying. Pupae may be separated from the dry medium by sprinkling the pupae-medium mixture on an inclined tray or chute set in front of an air blast such as that from an electric fan. The pupae must be handled gently and as little as possible in order to avoid injury. Any method that permits at least 95 per cent of flies to emerge is considered satisfactory.

An air separation apparatus (1) for separating pupae is used by several laboratories and found to be more rapid than the inclined tray method. The apparatus employs a blower, a cyclone collector, and a suction pipe. The device separates the heavier pupae from a layer of vermiculite placed on the surface of the fly medium before the larvae pupate. According to (2) a 2-inch layer of vermiculite should be placed on the larval medium 3 or 4 days after seeding. Six days after seeding, the mixture of vermiculite and pupae is loosened and poured on a tray and separated. Terra Lite Brand Vermiculite Soil Conditioner, available in 20-pound bags from some garden supply stores, has been found satisfactory for use in this procedure.

All of the pupae maturing on a given day are combined into one lot, mixed, and measured into test units. Each group is placed in a shallow dish which is, in turn, placed in a cage which provides at least 1 cu. in. of space per pupa. If the large group procedure is used the test unit consists of approximately 500 pupae. If the small group procedure is used, more than 500 pupae are placed in stock cages and adult flies are sampled prior to testing. Under normal rearing conditions, at least 80 adult flies should be obtained from each 100 eggs seeded.

Adult Flies: The food for adult flies shall consist of 5 per cent spray

(*Turn to Page* 258)

TABLE I. Small Group Method

Pair	*Culture*	*Date*	*% Dead* *Sample* 1	*OTI*	*Difference*[1]	*Deviation*[2]	*Deviation Squared*
1	C	3-8	58	50	+8	+4	16
2	C	8	62	55	+7	+3	9
3	C	8	60	54	+6	+2	4
4	C	8	52	52	+0	—4	16
5	C	8	49	46	+3	—1	1
6	E	9	61	54	+7	+3	9
7	E	9	46	49	—3	—7	49
8	E	9	53	51	+2	—2	4
9	E	9	57	54	+3	—1	1
10	E	9	53	46	+7	+3	9
			55.1M	51.1M	+4 MD	0	118 Sum d²

[1]Sample 1 kill minus OTI kill.
[2]Deviation from the mean difference (MD).

The mean difference (MD) between Sample 1 kill and the OTI kill is 4.0

$$\text{The standard error MD} = \sqrt{\frac{\frac{\text{Sum } d^2}{n-1}}{\sqrt{n}}} = \sqrt{\frac{\frac{118}{9}}{\sqrt{10}}} = 1.14$$

TABLE II. Large Group Method

	CULTURE E *Nov. 21*		*CULTURE F* *Nov. 23*	
Cage No.	*Sample*	*% Dead*	*Sample*	*% Dead*
1	OTI	43	2	69
2	1	44	3	65
3	3	57	OTI	54
4	2	63	3	58
5	3	52	1	45
6	*OTI*	47	2	77
7	1	39	1	54
8	2	71	OTI	46

Sample	*Mortalities*	*Average*	*Rating*	*Grade*
OTI	43, 47, 54, 46	47.5		
1	44, 39, 45, 54	45.5	— 2.0	B
2	63, 71, 69, 77	70.0	+22.5	AA
3	57, 52, 65, 58	58.0	+10.5	A

[1]Order from Ralston Purina Co., St. Louis, Mo.

[2]Diamalt and yeasts are products of Standard Brands, Inc., and are usually available from local distributors.

COCKROACH AEROSOL TEST METHOD

Tentative Method of the Chemical Specialties Manufacturers Association for Evaluating Aerosol Cockroach Insecticides*

I. INTRODUCTION

STARTING in 1942 extensive studies were made by various CSMA and Federal laboratories to develop a standard test method for evaluating aerosol insecticides against flying insects. This work lead to the adoption of the CSMA Aerosol Test Method for Flying Insects on October 12, 1952 (1), following the use of essentially the same method on a tentative basis starting in 1949 (2). During the same period a number of laboratories developed methods for evaluating aerosol insecticides against cockroaches. Descriptions of several of the methods appear in the literature (3,4,5), while other techniques were reported at meetings of the Insecticide Scientific Committee.

Early efforts of the Committee to develop a standard cockroach aerosol method centered around the use of space treatments in Peet-Grady or larger aerosol chambers with the insects exposed in suitable open cages. Following a cooperative test of a space spray method in 1952 and 1953, the Committee decided to use a direct spray treatment rather than a space treatment. It was also decided to use large nymphs of the German cockroach as the test insect and to try to adapt the procedure to the use of the same spray chamber specified for the Official Cockroach Spray Method (6). During 1954 a direct spray method was developed and studied by several CSMA and Federal laboratories. In a cooperative series of tests (early 1955), using coded dispensers with three different formulas (2.0% DDT plus 0.2%, 0.4% and 0.8% pyrethrins), all five laboratories were able to differentiate between the three formulas. A decision was then made by the Committee in May, 1955, to prepare the method in official form so that it might be considered for adoption on a tentative basis.

Reports of the Committee's studies appear in the minutes of the Insecticide Scientific Committee and the Committee reports in the CSMA PROCEEDINGS (7,8,9,10).

In this method it should be understood that the term "aerosol" applies to pressurized formulations containing 20 per cent by weight or less volatile ingredients (insecticides, base oils, solvents, etc.) and 80 per cent or more propellant liquefied gases (trichloromonofluoromethane, dichlorodifluoromethane, methylene chloride, etc.). Whether the method can be satisfactorily applied to formulations containing greater than 20 per cent low volatile ingredients will depend on additional study and cooperative tests.

The method here described is thought to offer a satisfactory means of determining the relative efficiency of aerosol formulations when applied as direct sprays to cockroaches. It is not designed to measure residual action. As a biological test it is subject to the variations that accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative effectiveness of different insecticides, the test is run in conjunction with the Official Test Aerosol, which is designated as the basis of comparison. The format of the method follows that of the Official Cockroach Spray Method.

II. APPARATUS

A. Reference Insecticide. The reference insecticide shall be the Official Test Aerosol (OTA) prepared by the CSMA, Inc. The OTA must be dispensed from the container in which it is supplied with particular care being taken that the OTA dispenser employed meets the specifications designated on its label.

B. Dispenser for Experimental Aerosol. No restriction is made on the dispenser employed in connection with the experimental aerosol formulation. However, it should be noted that the test results apply only to the experimental formulation as dispensed from the particular unit employed. In reporting results, the dispenser used with the experimental aerosol shall be specified.

C. Test Insect. The test insects shall be healthy, normal, undeformed last nymphal instars of the German cockroach, *Blattella germanica* (Linn.). Recently emerged last nymphal instars, e.g., those whose pigmentation is not dark, shall not be used for testing purposes. It is recommended that the last nymphal instar stage shall have been attained at least three days prior to testing.

D. Rearing Room. This room may be of any convenient size, constructed so as to be free from strong drafts and maintained at a temperature of 75 to 85°F. and a relative humidity of 30 to 50 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odor.

E. Testing Room. This room may be of any convenient size permitting adequate space for the operator to handle the test efficiently. While tests are being conducted this room shall be maintained at a temperature of 78 to 82°F. It is suggested that relative humidity be held between 30 and 50 per cent.

F. Spray Chamber. The spray chamber shall be a box-like structure of solid material measuring 18 inches wide, 18 inches long, and 25 to 30 inches high. The open floor of the chamber shall be covered with ½-inch mesh wire hardware cloth. Suitable guides shall be fastened to the chamber floor to permit the centering of the treatment container in some definite position in respect to the nozzle of the OTA and test aerosol dispensers. The top of the chamber shall be open. The front wall of the chamber may be in the form of a sliding door permitting convenient access to the interior of the chamber. The chamber shall rest on a stand, placing it at the proper height for convenient operation of the test.

An adjustable hinged shelf shall be affixed to the outside of the center of the back upper edge of the spray chamber. Any suitable shelf (see Figure 1) which will permit the OTA and test aerosol dispensers to be held in a standard position can be used. One satisfactory shelf is made of aluminum sheet fitted with adjustable guides (in slots with wing nuts) which permit adjustment for dispensers of different sizes. An adjustable metal support rod (casement window adjuster) can be used to regulate the angle of the shelf. Markings can be made on the rod and plate to permit rapid adjustment for different dispensers.

The above-described spray chamber is identical with that specified for the CSMA Official Cockroach Spray Method, except that the braces and mounting for the spray atomizer have been removed and the hinged shelf for holding the aerosol dispenser has been added.

G. Treatment Container. The Treatment container shall be a screen-bottomed container 3½ inches in diameter with 3-inch side walls. Sixteen mesh wire screen shall be soldered in place to form the bottom of the container in such a manner that the entire bottom is completely open. Ordinary tin cups of the proper dimensions with handles removed and the solid bottom replaced by wire screening have been found useful as test containers.

H. Insecticide Paper. Unsized, nonglazed, absorbent paper such as brown

*Chemical Specialties Manufacturers Association, 110 E. 42 Street, New York, New York.

kraft or gray bogus paper shall be used beneath the treatment container during the application of the aerosol mist. No special weight is specified, although 60 to 80-pound gray bogus paper has been found excellent.

I. Recovery Dishes. Glass crystalizing dishes measuring 125 millimeters in diameter and 65 millimeters high shall be employed as recovery cages. The bottoms of the recovery dishes shall not be covered with filter paper or other materials. Sixteen mesh wire screen covers may be employed as recovery dish covers during the 48-hour holding period following spray application in order to prevent the entry of wild roaches.

EXAMPLE OF TEST DATA

		OTA		*Sample A*		*Sample B*	
Test	*Date*	*Dosage (grs.)*	*% D&M 48 hrs.*	*Dosage (grs.)*	*% D&M 48 hrs.*	*Dosage (grs.)*	*% D&M 48 hrs.*
1	2/15/55	3.1	90	3.3	75	3.2	35
2	2/15/55	3.2	80	3.8	80	3.1	40
3	2/15/55	3.2	35	2.0	65	2.9	20
4	2/22/55	3.3	50	3.2	75	3.2	35
5	2/22/55	2.7	55	3.3	75	3.1	50
6	2/22/55	3.0	80	2.9	60	2.8	35
7	2/22/55	3.0	60	3.1	65	3.3	35
8	2/22/55	2.9	50	3.0	80	2.9	25
9	2/22/55	2.9	60	3.1	75	2.9	35
10	2/22/55	3.3	35	3.0	70	3.6	50
Average		3.06	59.5	3.07	72.0	3.10	36.0

Reported as follows: Sample A—Meets Standard. Sample B—Does not meet Standard.

III. PROCEDURE

A. Rearing of Test Insects. Any suitable method permitting the production of large numbers of the test insect under controlled conditions of temperature and humidity as previously described may be employed. The rearing technique described by Woodbury and Barnhart (11), which makes good use of a brood chamber containing adult females from which large numbers of first instar nymphs may be collected at frequent intervals, has been successfully used in a number of laboratories. All molded food, dead females, and empty egg cases should be removed weekly. Wild cockroaches shall not be used, and all test insects shall have been reared under uniform conditions.

B. Food. Up until the time of testing, cockroaches shall be provided at all times with food and water. The standard food shall be Dog Chow Checkers manufactured by the Ralston Purina Company, St. Louis, Missouri, or equivalent.

C. Test Procedure. Last instar nymphs shall be isolated in the recovery dishes or other suitable containers from the cultures in groups of 20 by means of a suction device, by anesthetizing them with carbon dioxide gas or any other suitable method which does not injure them. In selecting the test insects, every effort shall be made to obtain uniform test groups.

Prior to use, the OTA and test aerosol dispensers shall be calibrated at 82 ± 2°F. to determine their spray rate in grams per second. The dispensers shall be aligned on the adjustable shelf and settings determined for the various dispensers to permit rapid handling. The dispensers shall be so aligned that the aerosol mist is directed into the open top of the treatment container which rests on the floor of the spray chamber. The treatment container shall be placed against the center of the front wall of the spray chamber. Suitable guides on the chamber floor or front wall of the chamber will aid in placing the treatment container in a standard position. A line may be drawn on the chamber wall and on the dispenser to aid in aligning the nozzle with the center of the top of the treatment container. The treatment container shall rest on a 5 x 5 inch square of insecticide paper. Except for the 5 x 5 inch square of paper, the chamber floor (½ inch mesh wire hardware cloth) shall be open. The paper shall be changed after each spray application.

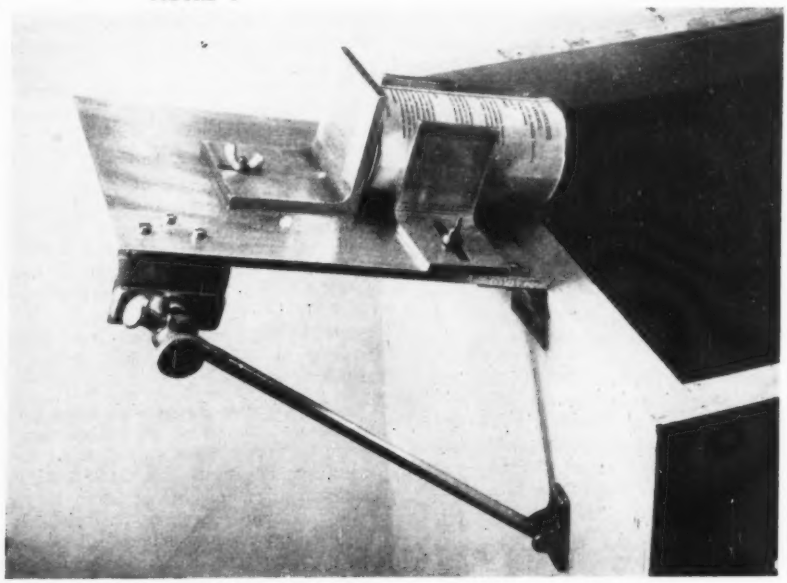
Immediately before spray application the cockroaches shall be transferred to the screen-bottomed treatment containers. These containers shall be free from all traces of insecticides and shall have the entire inner wall surface suitably oiled or greased to prevent the escape of the cockroaches and to confine them to the container floor. Prior to spray application the treatment container shall be agitated sufficiently to distribute the test insects uniformly over the container floor. The treatment container shall be removed from the spray chamber 30 seconds after the start of spray application. The test insects shall be immediately transferred from the treatment container to the recovery dish. The treated cockroaches shall be held under rearing room conditions through the 48-hour observation period and shall receive neither food nor water.

In evaluating a test sample, a minimum of 10 individual test groups shall be run for the test dispenser in conjunction with 10 test groups receiving OTA. An equal number of replicates shall be made for members of any given test series on a given test day. The average dosage employed shall be approximately the same throughout a given series of tests and of such magnitude as to result in an average of 50 per cent to 75 per cent of the insects dead and moribund at 48 hours with the OTA. Average dosages shall be considered the same if they agree within 0.2 grams. Cooperative tests among CSMA laboratories have shown the required dosage to be 2.0 to 4.0 grams. Test dispensers shall be weighed before and after the spraying of each test group of insects, and the weight of material used shall be recorded.

D. Assembly and Evaluation of Data. Evaluation of test dispensers shall be made on the basis of observations taken 48 hours after spray application, at which time the percentage of test insects normal, moribund, and dead shall be determined. Any insect showing signs of life but incapable of locomotion shall be considered moribund. Similar records taken at 24 hours or at intervals longer than 48 hours may be of interest in critical studies. It is recommended

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FIGURE 1



AEROSOL INSECTICIDES STORAGE TEST

Tentative Official Method of the Chemical Specialties Manufacturers Association for Storage of Aerosol Insecticides

AEROSOL insecticides are subjected to storage tests in order to ascertain the shelf-life of the complete package and to evaluate the degree of suitability of the valve and container components for their intended uses. It is impractical to promulgate a set procedure for conducting storage tests since variations will be necessitated by differences in the ultimate objective. For example, the primary interest of one investigation may be in valve evaluation, while another may be principally concerned with container suitability or the shelf-life of a new product in an existing package. It follows that storage test methods must be flexible enough to accommodate the small procedural changes thus required. An attempt will be made only to outline the principles to be observed in establishing a definite procedure in order to allow the individual investigator the prerogative of adapting these to satisfy his particular requirements.

There are three major points that should be borne in mind when a storage test of aerosol containers is to be made. First, sufficient samples should be available to replace any containers that fail during the course of the test and to make it possible to later extend the storage period, if desired. There is nothing more discouraging than reaching the end of a long storage test with a quantity of samples which, due to unusual conditions arising, are insufficient in number to provide a sound basis for drawing valid conclusions. Second, it is extremely important that the examinations of the test pack be conducted according to standardized procedures and at regularly scheduled intervals. Only if this rule is followed can there be any assurance that important developments will not be missed and that the results will correlate with those of other storage tests. Third, the examinations should be made by personnel familiar with the problem being investigated and well qualified to evaluate the condition of the containers, valve components and product. It is highly desirable to have the same individual conduct all the examinations of a given test pack since most of the data is not obtained by direct measurement and is, therefore, not entirely objective in nature. This and a standardized examination procedure will do much to minimize the effect of the human element.

Before any samples are committed to storage, certain information should be made available. So that the test pack can be intelligently set up, all pertinent background information concerning the problem should be assembled. Certain tests should be conducted to eliminate, insofar as possible, defective containers or valves from the tests, although the frequency of such defects should certainly be recorded. To make this segregation possible, pressure determinations and hot bath, vial leakage and spray tests should be made on each filled container. Conditions of filling and handling should approximate as closely as possible those that would be encountered commercially.

There are two types of storage tests that may be performed with aerosol insecticides. The first is the so-called "live" storage test, in which the valves are actuated and the determinations made at relatively frequent intervals. The purpose is, of course, to simulate conditions encountered during use of aerosol dispensers. The second type of test, often referred to as "dead" storage, simulates conditions found in warehouse storage and is performed when shelf-life information is sought.

Live Storage Test

Containers for "live" storage tests are generally stored at room temperature. In addition, a higher temperature storage, e.g., 98°F., is frequently employed. Use of the latter storage temperature is particularly desirable when a new valve or product is being evaluated. The use of storage temperatures below 32°F. or the alternate exposure of test containers to sub-freezing and elevated temperatures is said to have considerable merit in the screening of new valves or new valve materials.

If the purpose of the investigation is to evaluate a valve, half the samples at each storage temperature should be kept in an inverted position. If the product or any constituent thereof exerts a detrimental effect on the sealing material of the valve, often the conditions may be observed more readily in the case of the inverted cans. Six cans inverted and six upright for each temperature is the minimum sample of each variable that should be considered. If the test is to involve only one storage condition, ten to twelve cans per variable, upright and inverted, is a more desirable sample size.

Examinations of "live" storage cans are usually made weekly and possibly oftener if completion of the test in less total elapsed time is necessary. The tests are usually considered completed when 10 grams or less of product remains in the containers. Extension of the test beyond this point may cause erratic and unreliable results. At each examination weigh loss and discharge rate (10 seconds) are measured. The determination of internal pressure at each examination is usually not necessary, but it is recommended that pressures be taken initially and two or three other times, equispaced during the test. Particle size may also be determined, if desired. When any valve becomes inoperative or fails to operate properly, the container and valve should be torn down immediately to ascertain the cause of failure. Each container and valve should be critically examined as soon as possible after the final valve actuation of the test.

Dead Storage Test

A wider range of storage conditions are employed in "dead" storage tests than is the case with "live" storage, 95-100°F., room temperature, 130°F., and below freezing (0-32°F.) being used. Standard procedure usually calls for the use of 98°F. and room temperature storage, while the other temperatures are employed in special cases. Temperatures of from 95° to 100°F., often referred to as incubation temperature, may accelerate container corrosion and leakage if the containers are so predisposed. However, incubated storage should always be used in conjunction with room temperature since it is often difficult, if not impossible, to predict normal shelf-life on the basis of 98°F. tests alone. Storage below freezing is valuable for evaluating the sealing efficiency and suitability of the gasket materials in insecticide valves. Storage at 130°F. is employed when the resistance of the container to structural fatigue is to be determined. Containers at each storage temperature should be held both upright and inverted.

Examinations of containers in dead storage are usually made following 1-, 3-, and 6-months storage and at 6 month intervals thereafter until the test is completed. Most investigations are concluded after 24-months storage, but they may be extended for a much longer period, if the previous results and the objective so require.

Samples should be provided for the "dead" storage test so that a minimum of two dispensers of each variable from each storage temperature can be evaluated and torn down at each scheduled examination. The other samples remain untouched,

except for weighing, until they are needed at a subsequent examination. A minimum of twelve extra containers per variable should be stored at each temperature to allow for extension of the test, if such later becomes necessary, and to allow a larger number of samples to be inspected at the final examination. Thus, the minimum suggested number of cans per product, container or valve variable becomes:

$$4np\ (4+y)$$

where: y designates the duration of the test in years,
n the number of storage temperatures, and
p the number of storage positions to be employed.

Examination

The examination of the pack may be divided into performance determinations, container and valve inspection, and product evaluation. The performance of the complete aerosol insecticide package is ascertained by making weight loss, discharge rate, pressure and possibly particle size determinations. If entomological data is required, such may be obtained by standard procedures now extant. As a check on filling, the volatile/non-volatile ratio may be determined following these tests. After expulsion of the propellant, the product should be transferred and the container and valves carefully torn down and examined. The metal valve parts should be inspected carefully for evidences of corrosion, and the rubber or plastic components for swelling, softening or disintegration. Conditions in the container interiors should then be noted with special emphasis on any staining, detinning, rusting, pitting or other indications of corrosion that may be present. Microscopic examination of valve and container components is recommended for without this assistance important and indicative developments may be overlooked. The product from the test containers is usually examined for color change, precipitate or sludge formation. If corrosion is found or suspected, it is suggested that the product be analyzed for the moisture, iron and tin content. If any abnormal or undesirable conditions are found in performance of valve or product, sufficient additional samples of the same lot should be examined to confirm the findings.

Safety Precautions

Aerosol storage tests involve a container, valve or product of unknown compatibility and performance. For this reason, and remembering the violence that may accompany the bursting of aerosol containers, it behooves the investigator to observe safety precautions. The necessity of using gloves, safety shield and glasses, and equipment with proper controls does not need further amplification. If, in the course of a test, container perforations or signs of advanced corrosion are found, or if the product, dispensers and/or valves otherwise become unmerchantable, the entire lot of samples should be destroyed. Besides wasting time and space, to continue such dispensers under test is to run the risk of serious accident.

Typical Pack

The above can best be illustrated by presenting in table form (Table I) a typical aerosol insecticide storage test made to compare in a given container the shelf-lives of a new formulation and a standard formulation. It is assumed that the pre-test information has been accumulated, and containers or valves with obvious defects have been eliminated.

Other Test Procedures

There are several other procedures that should be considered in conjunction with an aerosol testing program.

In evaluating a valve for a given formula it may be desirable to subject the containers to a continuous discharge test whereby the containers are emptied in a single burst or a series of long bursts. Such a procedure is very rapid and may give valuable clues on the suitability of the valve gasket material for the product. If indications of weakening, disintegration or undue swelling of the valve gaskets are found by means of this test, particular attention should be directed to the results of the live storage test.

Before commercial packaging of a new product or the use of a new container or valve is approved, certain information outside the scope of the laboratory test should be obtained. Filled containers should be subjected to normal handling, cartoning and shipping operations to determine the suitability of protective devices and the resistance of containers and valves to shock. Dispensers should be shipped to and stored in warehouses having the extremes in temperature that could be encountered in distributing and marketing the product. After the predetermined storage period in the various locations, the containers should be returned to the laboratory for complete examination.

Once commercial packaging of a product is initiated, a program may be inaugurated whereby defective or complaint dispensers encountered in the field are returned to the laboratory. By this means a continuous check on quality is maintained and it may enable the packer to be forewarned of difficulty before it becomes serious so that corrective measures may be taken.

Summary

To summarize, the three major prerequisites for an adequate storage test are: (1) the providing of an adequate number of samples, (2) a well planned examination schedule and procedure, and (3) competent personnel to perform the tests. If the basic rules outlined above are adhered to, much valuable information, not obtainable by other means, will result, thus rendering the storage test an indispensible adjunct to the aerosol insecticide testing program.

TABLE I

	"Live" Storage	*"Dead" Storage*
Product, container, valve variables	2 (product)	2 (product)
Storage temperatures	R.T., 98°F.	R.T., 98°F., 30°F.
Storage positions	Upright & Inverted	Upright & Inverted
No. of filled cans per formula	24 (half inverted at each temperature)	144 (half inverted at each temperature)
Total No. of filled cans	48 (half inverted)	288
Duration of test	Until completed	2 years
Examination schedule	Weekly	1,3,6,12,18,24 months
No. of containers examined each examination	48 cans	24 cans (2 per product per temperature per position), all remaining dispensers examined after 24 months storage. All dispensers weighed.
Examination procedure	1. Wt. loss 2. Pressure (see above) 3. Discharge rate (10 sec.) 4. (Particle size) 5. Valve and container inspection at final examination or when failure occurs.	1. Wt. loss 2. Pressure 3. Discharge rate (10 sec.) 4. Valve examination 5. Container examination 6. Product examination

AEROSOL TEST METHOD FOR FLYING INSECTS

Official Method of the Chemical Specialties Manufacturers Association* for Assaying Aerosols for Flying Insects

I. INTRODUCTION

Early in the developmental period of liquefied gas aerosols starting in 1942 and especially following their appearance on the civilian market on a large scale in 1946, the need for a common method of biologically assaying aerosols became apparent. The literature records several testing techniques (among them 1, 2, 3, 4, and 5) employed by various investigators at that time, but the necessary cooperative tests leading to the development of an official method were not initiated until 1947. The first series of cooperative aerosol tests among industrial and federal laboratories was organized and conducted in 1947 under the direction of the NAIDM (now CSMA) Aerosol Committee (6). These tests employed a standard formulation in a standard dispenser at three dosage levels by the method in current usage in the cooperator's laboratory. Employing the results of the first cooperative tests as a basis, a second series of cooperative tests was designed and conducted under the direction of the NAIDM's Insecticide Scientific Committee. In this second series of tests made during the period May to October, 1948, four conventional low pressure aerosol formulations, each packaged in a standard dispenser, were tested by nine cooperating laboratories. In these tests (7), the use of free flying flies, a standard dosage and a standard testing technique were employed. A third series of cooperative tests were conducted by ten participating laboratories. These tests (8) made use of three coded formulations containing .2%, .4%, and .8% pyrethrins. (See minutes). The method here presented is based on the outcome of the first, second, and third series of cooperative tests and, in so far as practical, follows the Official Peet-Grady (9) Test Procedure (both large and small group). This technique for testing aerosols should be regarded as a practical test method designed for the comparison of formulations in the dispensers in which they will be employed by the consumer. It is restricted at present to the use against house flies, although it is felt that with modifications in dosage the general procedure would be satisfactory for other flying insects.

II. APPARATUS

A. Reference Insecticide.

The reference insecticide shall be the Official Test Aerosol (OTA) prepared by the CSMA, Inc. The OTA must be dispensed from the container in which it is supplied with particular care being taken that the OTA dispenser employed meets the specifications designated on its label.

B. Dispenser for Experimental Aerosol.

No restriction is made on the dispenser employed in connection with the experimental aerosol formulation. However, it should be noted that the test results apply only to the experimental formulation as dispensed from the particular unit employed. In reporting results, the dispenser used with the experimental aerosol shall be specified.

C. Test Insect.

The test insect shall be the house fly (*Musca domestica*, L.) reared from a strain mixed under the supervision of the CSMA. Healthy test groups having an average age of four days shall be used and individual flies in the test groups shall not be less than three nor more than six days old at the time of testing. The strain shall be of such susceptibility that the Official Test Insecticide (OTI) will cause a 24-hour mortality of 30 to 55 per cent and with approximately 95 per cent of the flies paralyzed at ten minutes following spray application by the Peet-Grady method.

D. Fly Cages.

Cages of any convenient type may be used if they provide at least 1 cubic inch of space per fly and have at least two sides and the top screened. It is suggested that the base be square in shape to provide maximum floor space. The floor of the cage is preferably detachable to facilitate cleaning and inserting a paper floor covering. The cages are constructed of wood or other suitable material and 16 mesh wire screening; they are fitted with a sleeve opening, rubber membrane, or a door.

E. Rearing Room.

This room may be of any convenient size constructed so as to be free from strong drafts, and maintained at a temperature of 82 ± 2 degrees Fahrenheit and relative humidity of 50 ± 5 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odors and gases from fermenting media.

F. Testing Room

This room shall be of any convenient size, capable of holding the aerosol test chamber (Peet-Grady Chamber or larger chamber) and permitting adequate additional space for the operator to handle the test efficiently. While conducting tests, this room shall be maintained at a temperature of 75 to 85 degrees F. It is suggested that the relative humidity be held between 40 and 70 per cent. Since the exhaust fan of the chamber will move relatively large quantities of air, the temperature of the air entering this room should be approximately that specified above.

G. Aerosol Test Chamber.

The test chamber shall be a Peet-Grady Chamber as specified in the Peet-Grady Method, or a larger chamber meeting the general specifications of the Peet-Grady Chamber. In the case of larger chambers, it is recommended that the dimensions be such as to approximate a normal room.

H. Exhaust Fan.

An exhaust fan moving not less than 1000 cubic feet of air per minute through the Peet-Grady chamber, or a fan of proportionately larger capacity for testing chambers larger than the Peet-Grady Chamber shall be used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

I. Insecticide Paper.

Unsized, nonglazed, absorbent paper, such as brown kraft or gray bogus, shall be used to cover the chamber floor. No special weight is specified although 60 to 80-lb. gray bogus paper has been found excellent. In certain laboratories testing chamber ceilings and walls have been covered with cardboard, kraft paper or other material suitably arranged for easy renewal to reduce chamber cleaning difficulties.

J. Apparatus for Picking Up Flies.

Any convenient means of picking up the paralyzed flies without injuring or appreciably disturbing them may be used. If a vacuum device is used, it must produce gentle suction, have a sufficiently large receptacle to prevent crowding of the flies, and shall be cleaned after each test with the same materials used in cleaning the chamber.

In laboratories in which it is felt desirable to capture unparalyzed flies at the end of the test exposure period, suitable means of capturing the flies without injury in a clean apparatus shall be employed.

*Chemical Specialties Manufacturers Association, 110 E. 42 Street, New York, New York.

III. PROCEDURE

A. Rearing and Handling Flies.

In this procedure, eggs are transferred to medium suitable for the development of larvae. The pupae are collected from the medium and placed inside of cages, and the adult flies emerge and remain in these cages until the day of testing.

(a) Larval medium: The preferred containers are cylindrical glass battery jars approximately 6 in. in diameter and 9 in. high. For one jar, mix 340 gm. (12 oz.) standard dry alfalfa-bran mixture (*1) with approximately 750 ml. of an aqueous suspension containing 15 gm. moist cake yeast (*2) and 10 ml. Diamalt (*3).

Mix thoroughly until a loose, fluffy medium is obtained, transfer it to the battery jar without packing, cover with cloth and set in the insectary. The amount of suspension required for best rearing results will need to be determined in each laboratory and it may be varied in order to prevent mold growth. It is suggested the medium be prepared in the late afternoon of the day before egg collection.

(b) Eggs: Eggs are collected for a period not longer than 16 hours from food dishes or other oviposition sites in cages containing mature flies not more than 8 days old. It is suggested that fresh oviposition medium be placed in fly cages in the late afternoon and eggs be collected early on the following morning. After collecting the eggs they must be measured and seeded without delay. Wash the eggs in tap water at room temperature and measure 2000 eggs as accurately as possible. This may be done by allowing the eggs to settle in a calibrated pipette or graduate (0.1 ml. settled eggs contains about 700) or the eggs can be filtered and measured in calibrated pits or cells. Use 10 ml. tap water to measure and to scatter the eggs in a ½ inch pit located in the center of the jar of larval media. Cover the eggs with a loose medium, replace the cloth covers on the jars, and set jars in the insectary so that at least 1.5 inch separates each jar to permit free air circulation. The maximum temperature in the jar (about 3 days later) must not exceed 130°F. Under normal conditions, more than 85 per cent of the eggs should hatch within 36 hours of the time they are laid.

(c) Pupae: Mature larvae migrate to the top portion of the medium and normally all larvae will have pupated by the seventh day after seeding eggs. When this occurs, the portion of the medium containing pupae is loosened, poured into a shallow tray, and air dried at room temperature. An electric fan may be used to hasten drying. Pupae are separated from the dry medium by sprinkling the pupae-media mixture on an inclined tray or chute set in front of an air blast such as that from an electric fan. The pupae must be handled gently and as little as possible in order to avoid injury. Under normal conditions, at least 95 per cent of flies will emerge from the pupae.

The separated pupae are thoroughly mixed and weighed in groups as test units and each group is placed in a shallow dish which is, in turn, placed in a cage which provides at least 1 cubic inch of space per pupa. If the small group procedure is used, more than 500 pupae are placed in stock cages and adult flies are sampled prior to testing. If the large group procedure is used the test unit consists of approximately 500 pupae.

(d) Adult Flies: Each cage is supplied daily with a dish containing at least 15 ml. for each 100 flies of a solution consisting of 5% spray dried, non-fat milk with solids (roller dried or caked milk solids settle out of suspension within a few hours and are unsuitable as food.) and 2% granulated sugar thoroughly dispersed in water; this shall be so prepared as to prevent the flies from drowning. A 40 per cent formalin solution at the rate of 1/1500 delays souring of milk for several hours. Satisfactory food must be available to the flies at all times. The series of test units is kept until the second day of oviposition (usually the 14th day after the culture was prepared) when they are ready for testing. Under normal rearing conditions, at least 80 adult flies should be obtained from each 100 eggs seeded.

B. Testing Flies.

Before a fly aerosol test is started, the aerosol test chamber must be clean and have clean paper on the floor, all ports and openings must be closed, and the temperature must be 82 ± 2°F., and all windows must be equally shaded. In chambers where walls and ceilings are covered with paper or other material, contamination, if present, must be at sufficiently low levels so as not to influence test results. Chambers are considered to be contaminated and unsatisfactory for test use when test flies, held in them for a 12 to 16 hour period with food but without insecticide treatment, show mortalities in excess of 10%, or when over 10% of the flies are paralyzed within 30 minutes after liberation. It is recommended that laboratories make a standard practice of taking contamination observations, employing a normal fly test group, following each day's testing. In both the large and small group procedures, only flies which are capable of flying shall be liberated into the aerosol test chamber. In the small group method, a sample of 100 ± 5 flies is used in each test; but in the large group procedure, all flies in one cage are used in a single test. Samples may be taken by liberating the flies directly into the chamber and continuing until about 10 per cent of flies remain in the stock cage. These are discarded. Samples may be taken also by discarding the first 100 flies and then counting 50 flies into each of a series of small cages. One hundred flies are counted into the last cage and, working backward, 50 flies are added to each. Flies remaining in the stock cage are discarded. The order of spray treatments must be randomized.

After liberating the flies in the chamber, and with the bomb at 82 ± 2°F., a total of 3.0 ± 0.5 grams of aerosol mixture per 1000 cubic feet shall be applied in a continuous flow. In Peet-Grady Chambers, this is 0.648 ± 0.108 grams. The dispenser nozzle may be oscillated slowly to effect uniform distribution of the aerosol mist within the test chamber. The mist shall not be directed onto chamber wall and ceiling surfaces. The test dispenser shall be weighed before and after the liberation of the aerosol mixture and the actual weight of material introduced shall be recorded. The chamber is closed at a constant temperature in the range of 82 ± 2°F. for 15 minutes from the time the aerosol mist is introduced.

Counts shall be made as to the number of flies "down" (paralyzed) at 5 and 10 minutes following insecticide application. These counts are especially important because with conventional formulations practically all flies "down" at 15 minutes fail to recover during the 24-hour observation period. At the end of 15 minutes the ports are opened and the chamber is ventilated by means of the exhaust fan while the flies are collected.

The "down" flies are picked up and transferred immediately to clean cages meeting the specifications of Section II, paragraph d. These flies may be counted when they are picked up or later, depending upon which time is more convenient. During the subsequent 24-hour recovery period, the cage is placed in the rearing room and supplied with an adequate quantity of a 5 per cent sugar solution, arranged so that the top of the dish is not more than ¾ inch above the floor of the cage and the flies can not drown in it. A gauze-wrapped ball of cotton saturated with 5 per cent sugar solution is also satisfactory.

The "up" (unparalyzed) flies in the chamber at the end of the 15-minute exposure period must be counted and either discarded or captured.

After a test is completed all toxic residues must be removed from the chamber or, if allowed to remain, must be at sufficiently low levels so as not to affect test results. Where chamber surfaces permit, wiping with a clean cloth saturated with alcohol containing 10% acetone will remove a number of toxic residues.

C. Assembling the Data.

The number of "up" flies must be counted and recorded at the end of the 15-minute exposure period. The

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*1 Mixed quarterly according to CSMA specifications by the Ralston Purina Co., St. Louis, Mo., on the basis of orders received by the first of January, April, July and October, in 50 lb. bags. Terms—pay on receipt of invoice.

*2 5 gms. dry yeast may be used.

*3 Standard Brands Inc., products. These can be obtained from local distributors in most cases.

GLOSSARY OF TERMS USED IN THE AEROSOL INDUSTRY*

Active Ingredient — component of an aerosol formulation that produces the specific effect for which the formulation is designed.

Aerosol—a suspension of fine solid or liquid particles in air or gas, as smoke, fog, or mist. As defined by the Department of Agriculture, 100 per cent of the particles in an insecticidal aerosol spray must have a diameter less than 50 microns and 80% of the particles must have a diameter less than 30 microns.

Aerosol Insecticides Storage Test —tentative official method (sponsored by CSMA) for determining storage characteristics of aerosol insecticides.

"Aerosol" Product — self-contained sprayable product in which the propellent force is supplied by a liquefied gas. Includes space, residual, surface coating, foam and various other types of products but does not include gas-pressurized products such as whipping cream. The term aerosol as used here is not confined to the scientific definition.

Aerosol Test Method for Flying Insects—official bio-assay method (sponsored by CSMA) using houseflies and OTA.

Auxiliary Solvent—liquid material used in addition to the primary solvent. Generally used to replace part of the primary solvent to produce some specific effect or as a matter of economics.

Chemical Attack—chemical reaction or solvent effect, causing failure or deterioration of plastic and rubber parts, organic coatings, metals, or lithography involved in the completed package.

Compatibility—broad term meaning that the various components of an aerosol formulation can be used together without undesirable physical or chemical results.

Concentrate—a basic ingredient or mixture of ingredients to which other ingredients, active or inactive, are added.

Container—metal, glass or plastic shell in which an aerosol formulation is packaged.

Corrosion — chemical alteration of the metal parts of container or valve. May lead to package failure and/or product deterioration.

Cosolvent—solvent used to improve the mutual solubility of other ingredients.

Crimp—one operation by which the valve may be permanently seated in some aerosol containers.

Density—weight of a given volume of material at a specified temperature.

Delivery Rate—weight of mixture discharged from dispenser per unit of time at a specified temperature. Usually expressed as grams/second at 80°F.

Dispenser—metal, glass, or plastic shell with valve from which an aerosol or pressurized formulation is dispensed.

Eductor Tube — tubing connecting the lower portion of container or dispenser with valve. Sometimes miscalled "syphon tube" or "dip tube."

Foam Product—aerosol formulation containing a solution or emulsion which is dispensed in a highly expanded fluffy form by a liquefied gas propellent.

Head Space—volume in upper portion of dispenser not filled with liquid contents. Usually expressed as per cent of total volume of dispenser at a specified temperature.

High Volatile Ingredients—see Volatile Ingredients.

Inert (or Inactive) Ingredient—component of an aerosol formulation that does not contribute to the specific effect of the formulation. In some cases, may be quite arbitrarily defined. For example, with insecticides, only the propellents are considered as inert ingredients.

Low Volatile Ingredients—see Nonvolatile Ingredients.

Metering Valve—valve that delivers a definite, limited amount of aerosol formulation each time the valve mechanism is operated.

Non-volatile Ingredients — components of an aerosol formulation with a vapor pressure less than atmospheric pressure (<14.7 lbs./sq. in. absolute) at a temperature of 105°F. Sometimes called *low volatile* components.

Official Test Aerosol, or OTA—a standard insecticide dispenser and formulation prepared by CSMA for use in Official Aerosol Test Method for Flying Insects.

Particle Size—diameter of solid or liquid particles expressed in microns (thousandths of a millimeter).

Pressure—internal force per unit area exerted by any material. Since the pressure is directly dependent on the temperature, the latter must be specified. The pressure may be reported in either of two ways:

(A) Absolute pressure—the total pressure with zero as a reference point. Usually expressed as pounds per square inch absolute (psia).

(B) Gage pressure—the pressure in excess of atmospheric pressure. Under standard conditions at sea level, the numerical value of the absolute pressure is 14.7 higher than that of the gage pressure. The gage pressure is usually expressed as pounds per square inch gage (psig).

Product Deterioration — chemical reaction or physical change within or between components considered compatible in original formulation. May be due to time or temperature of storage or other factors.

Product Formulation — specific formulation of completed product, including propellent(s). Usually expressed as weight/weight (w/w) per cent.

Propellent — liquefied gas with a vapor pressure greater than atmospheric pressure (>14.7 lbs. per sq. in. absolute) at a temperature of 105°F.

Solubility—the extent to which one material will dissolve in another. Generally expressed as per cent by weight. May also be expressed as per cent by volume or parts per 100 part of solvent by weight or volume. The temperature should be specified.

Solvent—liquid part of an aerosol formulation used to dissolve solid or other liquid parts.

Spray — the dispersed discharge from an aerosol-type dispenser in the form of small droplets or particles. Does not include foam-type discharge.

Spray Coating—aerosol spray product for surface application, which leaves a residual clear or pigmented finish for protective or decorative purposes.

Stability—ability of a product to maintain its original characteristics over extended storage periods, under normal variations in temperature conditions.

Synergist — an auxiliary material that has the property of increasing the effect of the active ingredient even though it may have little specific activity itself.

NOTE: In the case of insecticides, synergists are considered as active ingredients.

Valve—mechanism for discharging products from aerosol-type dispensers.

Viscosity — internal resistance to flow of a solid (powder), liquid or gas at a specified temperature. A definite measurement for the consistency of a material.

Volatile Ingredients — components of an aerosol formulation with a vapor pressure greater than atmospheric pressure (>14.7 lbs. per sq. in. absolute) at a temperature of 105°F. Sometimes called *high volatile* components.

*Presented by the Definitions and Terms as Applied to Aerosol, Sub-committee, Scientific Committee, Aerosol Division, Chemical Specialties Manufacturers Association. Reported April 25, 1956, and Adopted by Scientific Committee May 20, 1956. Accepted by the Aerosol Administrative Committee May 20, 1956.

TENTATIVE METHOD FOR INTERNAL PRESSURE DETERMINATION OF AEROSOL PRODUCTS IN LIGHTWEIGHT CONTAINERS*

THE purpose in developing this method is to make available to industry, the Bureau of Explosives and other Governing Agencies, a proven method of measuring the true and complete pressure of aerosol containers without adding or detracting in any way from this pressure.

The many series of tests upon which the method is based, conducted by 18 cooperating laboratories in various parts of the country, are at the time of this writing, not yet fully completed. Further additions and refinements are contemplated to narrow the range of error as the data dictate. The method is being presented at this time since it is urgently needed to supersede methods made obsolete by the many new pressurized products marketed in recent years.

Apparatus Required

1. Can piercing pressure measuring device manufactured by Builder's Sheet Metal Works, 110 Wooster Street, New York 12, New York. (See Figure 1)

2. Constant temperature water bath with automatic temperature control having a maximum temperature variation of plus or minus 0.5°F. Must have operating range of from 70°F. to 130°F., and must be at least 10" deep and 8" wide.

3. Two thermometers, gravity A.S.T.M. #12F (—5°F. to +215°F.) with 0.5°F. graduations.

4. Gas supply, preferably through pressure regulator. Gas should be inert, but must be unliquefiable under the conditions of the test. Nitrogen, compressed air, monochloridifluoromethane and carbon dioxide have been successfully used.

5. Stop watch and/or timer.

6. Access to a dead weight tester for gage calibration. (This may be eliminated subsequently in lieu of a standard pressure package if the latter proves feasible).

7. Barometer, mercury.

8. Silicone stopcock grease.

Procedure

Upon receipt of apparatus, standardize gage over entire pressure range on deadweight tester, correcting for barometric pressure to sea level. This will detect any deficiencies inherent in the gage caused by shipping, assembling, etc.

Loosen wing nuts holding top plate, and raise to allow insertion of a pressure can. Adjust lower wing nuts to about 1/16" below can level. Screw gage assembly upward, in top plate, so that piercing pin is fully retracted to allow plate to firmly contact bottom seam of can. Apply light film of silicone grease to can bottom to lubricate rubber seal. Screw light film of silicone grease to can bottom to lubricate rubber seal. Screw top wing nuts down tightly. All needle valves should be closed at this point. Invert apparatus and quickly screw gage assembly down snug, piercing can. Immerse complete apparatus in 130° water with water level covering all screw joints. Open needle valves (1) and (2) and observe all connections for leaks. The apparatus must be completely leak free. Remove can from apparatus. Place test can in apparatus and pierce in the same manner as before. Immerse can in constant temperature water bath with water level just below valve (1). Container should be surrounded by at least two inches of water on all sides. Place ASTM thermometer alongside can, and second thermometer in center of water body. Readings of both thermometers should agree within 0.1°F. If they do not, inadequate agitation of bath is indicated and must be corrected before proceeding. Containers must be held at constant temperature as follows:

12.5 oz. capacity or less—
non aqueous product—30 min.
12.6 oz. capacity or more—
non aqueous product—60 min.
5 oz. capacity or more—
aqueous product—60 min.

After half of immersion time has elapsed, quickly remove container and agitate with 6 vigorous up and down shakes and replace in water bath. Attach prepressurizing line to quick disconnect, open valve (2) and prepressurize gage to approximately 5 p.s.i. below estimated container pressure by careful control of valve (3) or with pressure regulator. Close valve (3) tightly. After full immersion time has elapsed, carefully open valve (1) very very slightly until gage needle reacts, just perceptively. Close valve (1) and if gage needle moved upward, increase the prepressurizing pressure about 2 p.s.i. If gage needle moved downward, decrease prepressurizing pressure about 2 p.s.i. Repeat careful cracking of valve (1), until gage indicator reacts slightly a second time. Repeat

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FIGURE 1
CAN PIERCING PRESSURE MEASURING DEVICE

*Presented by the Special Pressure Determination Sub-committee, Scientific Committee, Aerosol Division, Chemical Specialties Manufacturers Association. Reported October 16, 1956 to the Scientific Committee and adopted December 3, 1956. Accepted by the Aerosol Division Administrative Committee, December 4, 1956.

TENTATIVE METHOD FOR DETERMINING INTERNAL PRESSURE OF AEROSOL INSECTICIDES AND ROOM DEODORANTS*

TO CONFORM with certain ICC Regulations, low pressure aerosol formulations of insecticides and room deodorants (20% nonvolatiles, or less) must have internal pressures not greater than 40 psig. at 70°F. Pressure measurements also provide a rapid, though rough, method for checking on filling ratios and filling procedures. Abnormally high pressures may indicate faulty evacuation of cans before pressure filling and the presence of trapped air resulting from below normal propellent temperatures during refrigeration filling.

Many methods of varying degrees of complexity have been devised to determine pressures. All are time consuming and do not lend themselves to mass production. In general, pressures taken to the nearest pound are considered sufficient for most purposes.

Because pressure is a function of temperature, it is very important that the contents of the can reach the standard working temperature of 70°F. A constant temperature water bath with suitable agitation is the best method of meeting this requirement. The samples to be measured require a minimum of 15 minutes in the bath before testing.

The measuring system should be constructed in such a way that the pressure is determined through the dispenser valve and does not require destruction of the dispenser. The system is prepressurized with nitrogen or other suitable gas.

The dispenser may be in either an upright or inverted position during measurement of the pressure. Three shut-off valves are located in the measuring system. One is positioned immediately below the gage. Below this valve is a tee with the opening to the outside controlled by the second valve. This opening is for prepressurizing and for cleaning out the line back to the valve block by sweeping with compressed air or gas. The third valve is in the line preceding the valve block and is also used to prepressurize the system.

Apparatus

1. A four-inch laboratory test gage, 1-100 psi. range, graduated in one-half pound subdivisions.

2. A jig with valve block for holding the dispenser and which will activate the valve when clamped into position. The valve block has an "O" ring which effects a seal against the outside of the one-inch valve cup of the dispenser and will accommodate most valves. A special valve block may be required in certain cases. Exchangeable valve depressing pins of various lengths and shapes complete the apparatus. The hook-up between valve block and gage (see Figure 1) is as follows: ⅛" Hoke valve, ⅛" diameter tubing, gage block, ⅛" pipe of sufficient length to allow the gage to be positioned above the surface of the water bath, ⅛" tee, ⅛" Hoke valve and gage. Reducers and connectors for pipe and tubing are used where necessary. The exhaust end of the tee is controlled by another ⅛" Hoke valve. All plumbing should be brass and copper.

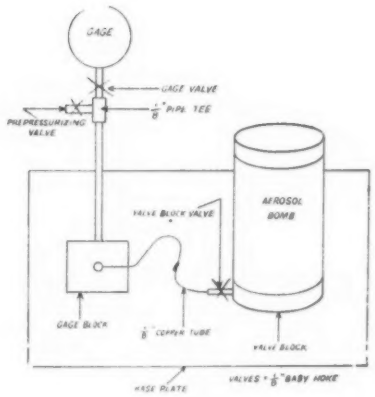
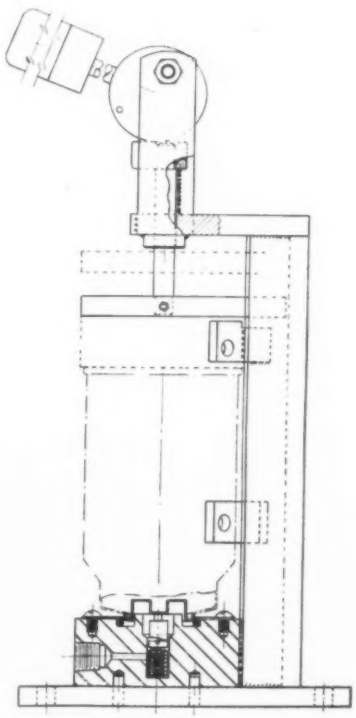


FIGURE 1
APPARATUS FOR PRESSURE METHOD

FIGURE 2
BOMB HOLDER FOR PRESSURE MEASUREMENT OF AEROSOLS



3. Constant temperature water bath equipped with stirring apparatus and of sufficient size to hold jig and test dispensers. Bath should be deep enough to allow the dispensers to be entirely surrounded with at least one inch of water. This will require a screen or perforated shelf above the floor of the bath. The bath should be 70° + 0.5°F. At 70°F. a 1°F. increase in bath temperature raises the pressure of the Official Test Aerosol (OTA) approximately 0.8 psig.

Procedure

1. Fifteen minutes before testing, place dispensers to be measured in 70°F. water bath along with measuring jig which has been prepressurized to 30 psig. and in which a spare dispenser has been clamped. The valve in the valve block is opened so that pressure in the dispenser is being measured. Use of spare dispenser prevents inaccuracies with the first test can, and keeps water out of the jig. Shake cans occasionally to help bring the contents more quickly to the bath temperature.

2. After 15 minutes, remove jig from bath and close valve in the valve block to keep system under pressure. Remove spare container and crack valve block valve just enough to reduce gage reading to the proper starting pressure (30 psig.). Wipe out any liquid that comes out of the valve block during this operation. Quickly remove first can to be tested from the bath with a pair of tongs and wipe off excess water before placing in jig.

3. After can has been clamped in position, open valve block valve, tap gage lightly, and record gage reading. Close valve block valve and repeat operation for the next can. Replace jig in bath every five minutes.

4. Lines should be blown out periodically. The frequency of cleaning will be governed by the type of formulas encountered, and must be determined by experience. Operation is accomplished by

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* Adopted by the Scientific Committee of the Chemical Specialties Manufacturers Association, December 5, 1956. Approved by the Administrative Committee, Aerosol Division, May 20, 1957.

TENTATIVE INSPECTION PROCEDURE FOR GLASS AEROSOLS*

IN view of the hazard involved in the use of glass containers for aerosol products, the CSMA Glass Bottle Advisory Committee has directed that standard pretesting procedures be established to recommend optimum filling methods, which will insure marketable pressurized products presenting a minimum of danger to the consumer.

A summary of pretesting procedures is presented herewith to serve as a guide for present and potential packagers of glass aerosol products. These methods have provided excellent results in the field, and are listed in descending order of occurrence after receipt of containers from the glass manufacturer as follows:

1. Specifications

a) *Bottle Capacity* — The internal volumes of randomly selected bottles, with valves inserted, are determined to insure that the headspace will be adequate to prevent a liquid-fill condition from developing under any anticipated combination of filling volume and temperature.

b) *Other Bottle Dimensions*—Overall height, weight, plastic coating thickness and neck diameter specifications are sampled to determine acceptance of bottles on the filling equipment, with particular emphasis on attainment of satisfactory valve sealing. Specifications are to be supplied in blueprint form by the container manufacturer.

2. Visual Inspection

Units are sampled for visual observation of possible defects in the glass or external plastic coating, which may have been imparted during the manufacturing process, or in transit to the filler.

3. Cleaning

Bottles are submitted to a filtered, dry air blast prior to loading, in order to remove dirt or lint particles, which might otherwise present an unsightly appearance in formulations packaged in transparent units, or cause valve clogging upon spraying.

4. Pressure Test

All aerosol bottles must be able to withstand a minimum air pressure of 125 psig without bursting. This test serves as a positive check on glass distribution in the bottle, and eliminates those units exhibiting flaws obtained in handling prior to aerosol packaging. A suitable shield must be provided to protect plant personnel from possible injury occasioned by glass fragments during this test.

5. Evacuation of Entrapped Air

Adequate precautions must be observed to remove air from the bottles during the filling process, in order to maintain product vapor pressures in accordance with theory, and within the maximum limitation of 25 psig at 70°F. Various methods are utilized for this purpose as follows:

a) *Refrigeration Filling* — Product filling temperatures are controlled in order to provide the volatilization of sufficient propellent to displace air prior to valve closure.

b) *Pressure Filling* — Following concentrate loading, a vacuum is drawn on the container headspace to remove air prior to valve closure. An alternative method involving introduction of a small quantity of Propellent 12, which flashes off to displace the air, may be utilized in lieu of the vacuum method.

6. Vapor Pressure Determination

The internal pressure of glass aerosol products may be determined in accordance with the standard method proposed by the CSMA Glass Aerosol Subcommittee.

7. Water Bath Test

Filled units may be subjected to immersion in a water bath generally maintained at a temperature below the deteriorating point of the formulation perfume component. Present practice usually involves a temperature of 100-110°F. with an adequate immersion time commensurate with proper attainment of temperature equilibrium conditions. This test provides a check on improper valve closures and possible overfilling on the line.

8. Final Inspection

The units receive a final visual inspection for filling height, and for possible dirt or scratches on the exterior surfaces of the bottles or coatings to insure proper esthetic appearance. The filling height of opaque coated bottles may be checked in many cases by passing the bottles in front of a strong light source. Valves are briefly actuated to check performance, and the units are boxed for shipment.

*Presented by the Project Committee on Pretesting Glass Aerosols, Scientific Committee, Aerosol Division, Chemical Specialties Manufacturers Association. Reported to and adopted by the Scientific Committee, December 3, 1956. Accepted by the Administrative Committee, December 4, 1956.

TENTATIVE METHOD FOR DETERMINING VOLATILE—NON-VOLATILE RATIOS OF AEROSOL FORMULATIONS—VACUUM DISTILLATION METHOD†

THIS method was designed primarily for use with aerosol insecticides and room deodorants in which the formulation does not contain methylene chloride or volatile active ingredients. It is particularly useful for formulations that precipitate at low temperature (—20°F.) or contain suspended solids. The Densimetric Method of Analysis is recommended for those formulations not containing solids at low temperature (—20°F.) or that do not have volatile active ingredient components which interfere with the vacuum distillation method.

Equipment Required

1. Vacuum source which will produce about a 28" vacuum.
2. Thief equipped with needle valve.
3. Balance accurate to 0.1 gram.
4. Three 125cc vacuum Erlenmeyer type flasks.
5. Capillary tubing (may be made from discarded thermometer).
6. Hot water bath (120°F.).
7. Stoppers, vacuum tubing, etc.

Procedure

Three samples should be analysed simultaneously from the unknown dispenser. If possible, a sample should be prepared containing identical ingredients as compared to the unknown being analyzed, having a known non-volatile content to check the general procedure.

1. Clean the exterior of the sample(s) to be analyzed.

2. Attach thief to the dispenser at a point where the maximum amount of liquid may be withdrawn from the dispenser piercing in the liquid phase. Withdraw a small amount of sample through the needle valve, allow to drain and weigh.

3. Clean and weigh vacuum flasks with stoppers and capillaries in place (record as flask tare). A single hole stopper should be placed in the vacuum flask with the capillary extending all the way to the bottom corner of the flask. Thus, the flask can be tilted so that air being introduced through the capillary can bubble through a maximum amount of liquid.

4. Withdraw sample through thief into vacuum flask placing the end or outlet as far into the flask as possible. Withdraw approximately 50 grams, close needle valve, allow to drain and reweigh. Repeat this sampling procedure into other two previously weighed flasks.

5. Place vacuum flasks in a 120° water bath and allow propellent to boil

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† Presented by the Insecticide and Room Deodorants Standard Methods Sub-committee, Scientific Committee, Aerosol Division of the Chemical Specialties Manufacturers Association. Reported May 8, 1956 to the Scientific Committee and adopted December 3, 1956. Accepted by the Aerosol Division Administrative Committee December 4, 1956.

TENTATIVE METHOD FOR DETERMINING INTERNAL PRESSURE OF GLASS AEROSOLS

PRESSURE is one of the most important criteria of an aerosol product. For the glass aerosol in particular an increase in internal pressure provides greater latitude in formulation, improved operating characteristics at slightly below room temperatures and use of less expensive propellent combinations. Beyond a certain point, however, increasing pressure creates a hazardous condition from the standpoint of possible breakage and effects thereof.

Since the ICC requires a metal container for compositions having pressures above 25 lbs. psi-gauge at 70°F., this valve becomes the limiting pressure for glass aerosols. There is a very definite trend to limit pressures to 15 lbs. psi-gauge at 70°F. for uncoated glass aerosols and specify plastic sheathed glass for pressures up to the 25 lbs. psi-gauge maximum at 70°F. These figures also are supported by glass bottle suppliers, major fillers and most merchandisers.

No standard method for determining the internal pressure of glass aerosols has been presented to the industry. One is urgently needed. Ideally, such a method should be simple and rapid; suitable for production control. The present method appears to have these qualifications.

Apparatus

1. *Pressure Gauge Adapter:* The specifications of this adapter are given in Fig. 1. The suggested material is stainless steel, although brass has been used.* The tapered section is designed to make gastight contact with the upper stem of glass aerosol valves by insertion within the stem bore. Where the hole through the upper stem is not circular in cross-section, the use of a rubber sealing washer is suggested.**

2. *Pressure Gauge:* This gauge is shown as part of the assembly in Fig. 1. A two-inch laboratory test gauge is suggested, with a range of 0-60 lbs. psi graduated in one pound divisions. The thread on the gauge stem must match that on the pressure gauge adapter. The recommended gauge is U. S. Gauge Figure 500 S, 2", 1/8" lower make connection, 0-60 lbs., specification No. 28208.

3. *Constant Temperature Water Bath:* The bath should have a stirring apparatus and should be of sufficient size to hold several dispensers. It should be deep enough to allow these dispensers to be completely submerged and surrounded with at least one inch of water.

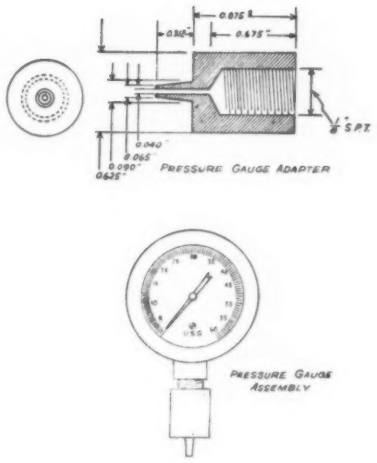


FIGURE 1

This will require a perforated shelf or a screen above the floor of the bath. The temperature should be 70° ± 0.50°F.

4. *Barometer:* Any standard model.

Procedure

1. Place uncoated glass aerosols in water bath at least 30 minutes before testing. Plastic sheathed aerosols should remain in the bath for at least one hour prior to testing.

2. Shake dispenser vigorously under water in the bath for one minute. Insert gauge assembly, actuate valve, and shake assembly until pressure reading becomes constant. Record pressure.

3. Remove gauge assembly and shake aerosol under water for one minute. Reinsert gauge system, actuate, and record pressure; shaking as before.

4. Repeat Step 3 to obtain a third pressure reading.

5. Record barometric pressure.

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TENTATIVE STANDARD METHOD FOR DELIVERY RATE OF AEROSOL INSECTICIDES AND ROOM DEODORANTS

DELIVERY rate of an insecticidal aerosol dispenser is determined by measuring quantity of material atomized by the valve in ten seconds. Duration of discharge and temperature of container and contents must be carefully controlled to obtain results that will correlate with subsequent test results.

Delivery rate tests assist in evaluating one aspect of valve performance and are considered a prerequisite to both biological and storage tests. Biological tests are frequently made with one or two dispensers selected from a group similar in all respects except delivery rates. When it is desirable to select dispensers with equal delivery rates, two or three tests should be performed on each dispenser. In the case of storage tests, a single delivery rate test is performed at each examination period to conserve contens and extend life of the dispenser.

Equipment

Water bath, maintained at 80 ± 0.5°F. with a screen or perforated metal shelf 1-inch above the bottom of the bath.

Stirrer, air-driven.

Balance, one-tenth gram scale.

Stop watch or electric timer. (An efficient timer can be assembled by mounting a cardboard disc three or four inches in diameter on the shaft of a 30 or 60 RPM motor. A single line from center to a point on the circumference of disc assists in counting revolutions.)

Procedure

Remove protective cover and other detachable materials from dispenser. Activate valve for 3 to 5 seconds and weigh dispenser to nearest 0.1 gram. Place dispenser on shelf in the water bath which is at test temperature of 80 ± 0.5°F., for 10 minutes. Keep dispensers in an upright position, spaced 1-inch apart and covered with 1 inch of water while in bath, Circulate water in bath with air-driven stirrer.

At end of 10-minute period remove dispenser with beaker tongs and place in an exhaust hood. Immediately open valve dispenser with a cloth or towel and use blast of compressed air to remove moisture from valve mounting cup and container seams. Reweigh dispenser and record difference in weight.

Results of each test are reported as delivery rate in grams per second and calculated as follows:

$$\text{Delivery rate, gm./sec.} = \frac{A}{10 \text{ sec}}$$

A = loss in weight in grams.

Repeat above procedure if duplicate tests are made on dispensers.

This method was experimentally evaluated using the 1949-1950 official test aerosol formulation. It is felt the test method will apply to all products of a like nature.

* A suggested source for pressure gauge adapters is: Modern Machine Shop, 123 N. Hazel St., Danville, Ill.

** The adapter has been used successfully with valves for glass aerosols made by Risdon Manufacturing Co., Precision Valve Corp., Valve Corporation of America.

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U. S. GOVERNMENT SPECIFICATIONS

General requirements of U. S. Federal Specifications for soaps, cleaners, detergents, polishes, insecticides, etc.

Insecticides, Aerosol, Low Pressure (12-Ounce Dispenser) O-I-508

Insecticides aerosol, 12-ounce dispenser, covered by this specification are intended to be used against mosquitoes, flies and other small flying insects.

Insecticides aerosol covered by this specification shall be of the following types:

Type I.—Allethrin and DDT
Type II.—Pyrethrins and DDT

The insecticide shall comprise the following ingredient materials in the specified proportions by weight:

TYPE I.

Ingredients	*Percent*
Allethrin[1], conforming to spec., minimum	0.6
Dichlorodiphenyltrichloroethane conforming to spec., minimum	2.0
Aromatic petroleum derivative solvent, conforming to spec., minimum	5.0
Deodorized kerosene[1], conforming to spec., minimum	7.4
Dichlorodifluoromethane, conforming to spec., maximum	42.5
Trichloromonofluoromethane, conforming to spec., maximum	42.5

[1] The deodorized kerosene percentage content shall include the related products from the technical allethrin.

TYPE II.

Ingredients	*Percent*
Pyrethrum extract, conforming to spec., minimum	2.0
Dichlorodiphenyltrichloroethane, conforming to spec., minimum	2.0
Piperonyl butoxide technical, conforming to spec., minimum	1.0
Aromatic petroleum derivative solvent conforming to spec., minimum	5.0
Deodorized kerosene, conforming to spec., minimum	5.0
Dichlorodifluoromethane, conforming to spec., maximum	42.5
Trichloromonofluoromethane, conforming to spec., maximum	42.5

The pyrethrum extract shall contain 20 percent pyrethrins.

The dichlorodiphenyltrichloroethane (DDT) shall conform in all details to grade B as specified with not more than .01 percent trichloromonofluoromethane insoluble material.

Piperonyl butoxide technical shall conform to the requirements.

The aromatic petroleum derivative solvent shall be a purified petroleum product. The product shall be certified by the manufacturer as causing no irritation to human skin. The product shall conform to the following requirements.

Color .....Not more than 4.0 Union Colorimeter
Specific gravity API..9-22
Water content .....None
Flash point (open cup), minimum ....150°F.
Initial boiling point, miniumum .....300°F.
Final boiling point...650°F.
Solvent power for DDT at 74°F.....35 gm./100 ml.

The deodorized kerosene shall meet the following requirements:

Appearance .....Clear and free from suspended matter.
Color .....Not less than plus 20 (Saybold chromometer).
Distillation range..Initial boiling point not less than 350°F., end point not above 500°F.
Residue from distillation .....Neutral.
Flash point .....Not less than 125°F. (Closed cup).
Odor .....Free from kerosene odor and practically free from all odor.
Residue odor .....None.
Unsulfonated residue .....96 percent, minimum.

The dichlorodifluoromethane shall conform to the detailed requirements specified in federal specification.

The trichloromonofluoromethane shall conform to the detailed requirements specified in federal specification.

The technical allethrin shall meet the following requirements:

Each container shall contain not less than 12 ounces of the insecticide, propellant and solvent mixture.

Each container when filled with the insecticide, propellant and solvent mixture shall contain not more than 80 ppm. of water.

The finished insecticide, propellant and solvent mixture in type I shall contain not less than 0.6 percent allethrin based on the analysis of the technical allethrin.

The finished insecticide, propellant and solvent mixture shall in type II contain not less than 0.40 percent by weight of pyrethrins.

The finished insecticide, propellant and solvent mixture shall, in type I and type II, contain not less than 2.0 percent by weight of dichlorodiphenyltrichloroethane (DDT).

The insecticide shall be mixed by a suitable process to produce a

ONLY the essential requirements of these government specifications have been extracted in this summary. Copies of the complete specifications, including details of packaging, methods of analysis, etc., are available from the Superintendent of Documents, Washington, D. C. The specifications listed are the latest versions as of the date of compilation of this edition of the Blue Book. Readers are cautioned, however, that further changes are being made periodically, and that the latest amended versions of all specifications should be consulted in filling government orders. Federal Test Method Standard #536b titled "Soap and Soap-Products (Including Synthetic Detergents); Methods of Sampling and Testing," particularly should be consulted.

PIPERONYL BUTOXIDE REQUIREMENTS (O-I 508)	*Max.*	*Min.*
alpha [2-(2-butoxyethoxy) ethoxy]- 4, 5-methylenedioxy-2-propyltoluene, percent	80	..
Specific gravity at 25°C.[1]	1.05	1.07
Refractive index at 20°C.[2]	1.497	1.512

[1] Determined by any suitable method accurate to 0.001.
[2] Determined by an Abbe Refractometer or equivalent instrument at 20° C.

ALLETHRIN REQUIREMENTS (O-I 508)	*Requirement (percent by weight*
Allethrin, minimum	75.0
Chrysanthemumic acid, maximum	2.7
Chrysanthemumic acid chloride, maximum	0.3
Chrysanthemumic anhydride, maximum	5.0
Dichlorodifluoromethane insoluble, maximum	0.5

homogenous mixture. Dispenser filling shall be carried out at a relative humidity equivalent of not more than 30 percent at 70°F.

Insecticides, Liquid, Space Spray O-I-551a

The insecticides covered by this specification are designed to spray in enclosed spaces either directly on flies and mosquitoes or into air in which they are flying.

The insecticides shall be of but one grade, and the following types (in deodorized kerosene), as specified:

Type I.—Pyrethrins and DDT.
Type II.—Allethrins and DDT.
Type III.—Pyrethrins.

The insecticide shall comprise the ingredient materials in the specified proportions in the accompanying table.

When specified in the contract or purchase order, other synergists may be substituted for piperonyl butoxide.

Pyrethrum extract shall dissolve in deodorized kerosene to form a clear solution. The pyrethrin content shall be determined as specified.

Piperonyl butoxide shall be of the technical grade containing not less than 80 per cent alpha—[2-(2-butoxyethoxy) ethoxy]—4, 5-methylenedioxy-2-propyltoluene, also named (butyl carbitol) 6-propyl piperonyl) ether. It shall conform to the following requirements:

	Min.	*Max.*
Specific gravity, 25°/25°C.	1.05	1.07
Refractive index at 20°C.	1.497	1.512

The piperonyl butoxide content of the finished insecticide shall be determined as specified.

DDT shall conform to the requirements for Grade B of Federal Specification. The finished insecticide shall be tested as specified and shall contain 5 mg. ± 0.25 organic chlorine per gram of solution.

The technical grade allethrin shall contain not less than 75 per cent by weight of allethrin nor more than 8.0 per cent total free acidity calculated as chrysanthemum monocarboxylic acid. The finished insecticide shall contain not less than 0.15 per cent by weight of allethrin based on analysis of technical grade and weight records.

The odor neutralizer shall be of a grade in commercial use and shall impart a pleasing or neutral odor to the finished insecticide. Only those odor neutralizers which have been approved at time of invitation for bids will be permitted.

Deodorized kerosene shall be free from kerosene odor and practically free from all odor, shall be clear and free from suspended matter and shall conform to the requirements in the accompanying table.

Insecticide, 75 Percent DDT Water-Dispersible Powder O-I-568

This specification covers one grade of insecticide, water-dispersible powder, 75 per cent dichlorodiphenyltrichloroethane (DDT).

It shall be prepared from dichlorodiphenyltrichloroethane (DDT) together with such biologically inert modifying and conditioning agents as are needed to meet the requirements.

The finished insecticide shall contain not less than 36.0 per cent organic chlorine when tested as specified, shall be free flowing, of a light color such as white, cream, or light gray, and shall be readily wettable with water to provide dispersions suitable for use as residual effect insecticide sprays.

Any foam built up in the preparation of test suspensions shall not have such copiousness, stability, or other properties as would prevent the completion of the tests.

The surface-mean particle diameter of the insecticide powder shall be not greater than 5.0 microns.

Not less than 98 per cent of the insecticide powder shall pass through a 74-micron (U. S. Standard No. 200) sieve, and not less than 100.0 per cent shall pass through a 1,000-micron (U. S. Standard No. 18) sieve.

Not less than 95 per cent of the insecticide powder incorporated in a suspension shall pass through a 250-micron (U. S. Standard No. 60) sieve.

A suspension prepared and tested as specified shall have a pH value not lower than 5.0 and not higher than 10.0.

INGREDIENT MATERIALS (O-I-551a)

	Per Cent by Weight	
	Minimum	*Maximum*
Type I:		
Pyrethrins	0.08	0.12
Piperonyl butoxide, technical	0.75	0.85
DDT	0.95	1.05
Odor neutralizer	0.04	0.06
Deodorized kerozene	To make 100 per cent	
Type II:		
Allethrin	0.15	0.18
Piperonyl butoxide, technical	0.75	0.85
DDT	0.95	1.05
Odor neutralizer	0.04	0.06
Deodorized kerozene	To make 100 per cent	
Type III:		
Pyrethrins	0.08	0.12
Piperonyl butoxide, technical	0.75	0.85
Odor neutralizer	0.04	0.06
Deodorized kerozene	To make 100 per cent	
Deodorized kerosene	To make 100 per cent	
Deodorized kerosene	To make 100 per cent	
Deodorized kerosene	To make 100 per cent	

DEODORIZED KEROSENE REQUIREMENTS (O-I-551a)

Distillation range:	
Initial boiling point, minimum, °F.	350
End point, maximum, °F.	500
Flash point, minimum, °F.	125
Color	Not more than extremely slight discoloration 25 Saybolt minimum
Residual odor	None
Unsulfonated residue, per cent, minimum	96

If pH is 8.0 or above, not more than 10.0 ml. of half normal by hydrochloric acid shall be required to neutralize the alkalinity of a 20.0-gram sample when titrated.

The product shall be clean and uniform and free from any defects which may impair its utility.

Insecticide-Concentrate: Liquid Water-Emulsifying (DDT-Nonexplosive Solvent—Emulsifying Agent) O-I-558

Liquid insecticide-concentrate covered by this specification shall be of one grade as specified.

It shall contain at least 25.0 grams of DDT conforming to the requirements for grade B of Federal Specification per 100 milliliters, a suitable emulsifier in such concentration as will enable the concentrate to meet the requirements of this specification, and a suitable solvent.

When specified in invitation for bids, each bidder shall submit a 1-gallon sample of the insecticide-concentrate which he proposes to furnish, for the purpose of determining compliance with the requirements of this specification.

The insecticide-concentrate shall be clear, homogeneous, and free from particles of undissolved DDT crystals or foreign matter. The appearance of the concentrate shall not be affected when tested as specified.

It shall contain a minimum of 120 milligrams of chlorine per milliliter, when tested as described.

When tested as described, the emulsions formed shall show not more than 5 milliliters of separation when tested at 80°F., nor more than 10 milliliters of separation when tested at 120°F., 30 minutes after formation and after reformation.

The flash point of the finished concentrate shall be not below 140°F.

There shall be no residual stain when the insecticide-concentrate is tested.

There shall be no more than a slight, mild residual odor when tested.

The solvent shall have an initial point not less than 300°F., and an end point not higher than 550°F.

The insecticide-concentrate shall cause no more than a slight discoloration of mild steel strips and shall cause no crazing or softening of strips of polymethyl methacrylate, when tested as described.

Insecticide Powder, Dusting O-I-578

Insecticide dusting powder covered by this specification shall be of but one grade as specified and shall contain only the material specified.

The finished insecticide powder shall be of free-flowing material devoid of lumps, of such fineness that not less than 99 per cent shall pass the U. S. Standard No. 80 (177-micron) sieve (dry test).

The finished insecticide powder shall have a surface mean particle diameter of not more than 5 microns.

It shall consist of 10 per cent by weight of active ingredient and the remainder of diluent. When specified, 0.1 per cent by weight of the coloring agent 1-(2, 4 dinitrophenylazo)-2 naphthol shall be added.

The active ingredient shall be technical-grade dichlorodiphenyltrichloroethane, hereinafter referred to as DDT.

Insecticide powder shall contain not less than 9.5 nor more than 10.5 per cent by weight of DDT.

The melting point of the DDT which has been extracted from the insecticide powder in the manner described, shall be not less than 100°C.

The melting point of a mixture of equal weights of the extracted DDT product and pure recrystallized DDT shall be not less than 100°C.

When specified in the contract on order, the coloring agent shall be a coal-tar dyestuff which will yield a flesh color to the finished insecticide. The dyestuff shall be 1-(2, 4-dinitrophenylazo)-2-naphthol which shall be certified by the Food and Drug Administration as meeting specifications for Drug and Cosmetic Orange No. 17 of Food and Drug Administration Service and Regulatory Announcement No. 3 "Coal Tar Regulations" of September, 1940. The finished insecticide shall yield no color in the water extract.

The diluent shall be either talc or pyrophyllite.

The talc shall be of the laminar type and of such degree of fineness that not less than 90 per cent will pass a U. S. Standard No. 325 (44-micron) sieve (wet test) and not less than 99 per cent will pass a U. S. Standard No. 100 (149-micron) sieve (dry test).

The pyrophyllite shall be of the same degree of fineness as specified for talc.

No more than 1.5 per cent by weight of the DDT present in the finished insecticide powder shall be decomposed after 1 hour.

The manufacturer shall, by a blending operation just prior to the filling of cans, establish uniform batches of not less than 2,000 pounds. These batches shall be given a control or batch number and shall be numbered serially.

Insecticide, Lindane (Water-Dispersible Powder) O-I-535

The insecticide covered by this specification is a 75 per cent lindane water-dispersible powder designed to provide a water dispersion suitable for use as a residual effect spray for the control of mosquitoes, flies, sand flies, mites (chiggers), ticks, and fleas. It shall be of one type and one grade.

The insecticide shall be composed of lindane and inert ingredients, as follows:

The insecticide shall be compounded to contain a concentration of 75.0 per cent lindane by weight, and the finished insecticide shall contain not less than 534 mg. nor more than 570 mg. of organically bound chlorine per gram.

The lindane shall be the gamma isomer of 1,2,3,4,5,6-hexachlorocyclohexane of a purity not less than 99 per cent. It shall be a white crystalline substance having a melting point not less than 112°C.

The inert ingredients shall be such biologically inert diluting, modifying, and conditioning agents, as are free of organically bound chlorine.

The insecticide shall be a free flowing powder, readily wettable with water and shall be of a light color such as white, cream, or light gray.

In the preparation of test suspensions of the insecticide powder, any foam produced shall not have such copiousness, stability, or other properties as would prevent the completion of the tests specified.

The surface-mean particle diameter of the insecticide powder shall not be greater than 5.0 microns.

Not less than 98 per cent of the insecticide powder shall pass through a 74-micron (No. 200) U. S. Standard sieve, and not less than 100.0 per cent shall pass through a 1-mm. (No. 18) U. S. Standard sieve.

Not less than 95 per cent of the insecticide powder incorporated in a suspension shall pass through a 250-micron (No. 60) U. S. Standard sieve.

A suspension of the insecticide powder shall have a pH value not lower than 5.0 and not higher than 9.0. If pH is above 8.0, not more than 10.0 ml. of half normal hydrochloric acid shall be required to neutralize the alkalinity of a 20.0 gm. sample when titrated.

The product shall be clean and uniform, and free of any defects which might impair its utility.

Insecticide, Lime-Sulfur, Liquid Concentrate O-I-532a

Insecticide, lime-sulfur, liquid concentrate covered by this specification is suitable for the control of insects and fungi on trees, shrubs, and other growing plants.

The insecticide shall be of but one type and one grade.

Insecticide, lime-sulfur, liquid concentrate shall consist of an orange-red solution prepared by boiling lime, sulfur, and water together and shall have the following properties: Per cent by weight: calcium polysulfides, minimum 29; maximum 32; calcium thiosulfate, maximum 2.5; and specific gravity at 60°/65°F., minimum 1.270, maximum 1.295.

The finished product shall be clean, free from undissolved material and free from defects which may impair its utility.

Insecticides, Water Emulsifiable Oil O-I-588a

The water emulsifiable petroleum oils covered by this specification are designed to be diluted with water and used as sprays for the control of scale insects, aphids, and similar pests on trees and shrubs.

The water emulsifiable petroleum oils covered by this specification shall be of one grade and the following types:

Type I.—Dormant-plant spray.

Type II.—Summer-spray.

The water emulsifiable oils shall be liquids and shall contain the amount

COMPOSITION OF DORMANT-PLANT SPRAY, TYPE I

Ingredient	*Percent by weight*	
	Minimum	*Maximum*
Dormant-plant spray oil, conforming to 3.1.1	95.0	....
Emulsifier, conforming to 3.1.3	....	5.0

COMPOSITION OF SUMMER SPRAY, TYPE II

Ingredient	*Percent by weight*	
	Minimum	*Maximum*
Summer spray oil, conforming to 3.1.2	95.0	....
Emulsifier, conforming to 3.1.3	....	5.0

PHYSICAL REQUIREMENTS OF DORMANT-PLANT SPRAY OIL

	Requirement	
	Minimum	*Maximum*
Viscosity (Saybolt at 100°F.), seconds	90	120
Unsulfonated residue (percent by weight)	80	....
Distillation range: Distills up to 636°F., percent	10	25

PHYSICAL REQUIREMENTS OF SUMMER SPRAY OIL

	Requirement	
	Minimum	*Maximum*
Viscosity (Saybolt at 100°F.), seconds	50	80
Unsulfonated residue (percent by weight)	90	....
Distillation range:		
Distills up to 520°F., percent.....	10	....
Distills up to 665°F., percent.....	80	....

of ingredients specified in the table for type I, and in table II for type II, as calculated from weight records.

The dormant-plant spray oil shall conform to the requirements in the table.

The summer spray oil shall conform to the requirements in the table.

The emulsifying agent shall be completely soluble in the oil, shall not be phytotoxic, and shall produce an emulsion with water that will not separate visible drops of oil on standing for 10 minutes at 80° ± 5°F.

The finished product shall be clean, free from undissolved material and free from any defects which may impair its utility.

Insecticide, Sulfur, Dusting Powder
O-I-583a

Insecticide, sulfur, dusting powder covered by this specification is suitable for the control of mites, insects, and fungus diseases on ornamental shrubs and other plants.

The insecticide shall be of but one type and one grade.

Insecticide, sulfur, dusting powder shall be a finely ground free flowing powder containing not less than 92 per cent sulfur by weight. Not more than 8 per cent shall consist of conditioning agents and inert material.

The surface-mean particle diameter of the finished insecticide shall not be greater than 12 microns.

Not less than 98 per cent of the finished insecticide powder shall pass through a No. 325 U. S. Standard sieve (44 micron) by the wet test.

Insecticide, DDT (Solution Residual Effect)
O-I-531a

The insecticide solution covered by this specification is designed as an oil-base residual insecticide to provide continuing protection against flies, mosquitoes, bedbugs, and other flying and crawling insects, and shall be of one type and one grade.

The insecticide shall comprise the following ingredient materials in the specified proportions by weight:

	Per Cent
Dichlorodiphenyltrichloroethane (DDT)	5 ± 0.1
Kerosene	80 ± 0.2
Auxiliary solvent	15 ± 0.2

DDT shall conform in all respects to grade B of Federal Specification. The finished spray shall contain 25 mg. ± 0.5 mg. of chlorine per grain of solution.

Kerosene shall contain no organic chlorine.

Auxiliary solvent shall contain no organic chlorine and shall consist principally of aromatic hydrocarbons. Auxiliary solvents shall not add an objectionable odor to the finished spray.

There shall be no residual stain when the auxiliary solvent is tested.

The finished insecticide shall show no sedimentation. Color shall not exceed Union Colorimeter color No. 2.0.

Insecticide: Liquid (Fly-Spray)
O-I-541a

This spray is intended primarily for use against flies but if properly and thoroughly applied directly to the insects, it will control mosquitoes, bedbugs, ants, fleas, and clothes moth larvae.

The manufacturer is permitted latitude in the selection of raw materials and processes of manufacture to meet the requirements of this specification.

The liquid insecticide shall not cause irritation to man nor be poisonous to man when applied in the usual manner in the destruction of house flies, shall have no greater detrimental action upon metal or paint (paint, enamel, varnish, lacquer, etc.) surfaces than the specified solvent, and shall have no objectionable odor.

It shall be formulated from a petroleum distillate base, free from kerosene odor and practically free from all odor, and shall be clear and free from suspended matter and shall contain other ingredients to make its performance equal to or to exceed the performance requirements.

The liquid insecticide shall meet the following requirements:
Initial boiling point...Not below 350°F.
End point .....Not above 530°F.

The flash point shall be not less than 125°F. (closed cup).

When tested in accordance with specification, no residual odor shall be present.

It shall meet staining properties and corrosion tests specified.

The liquid inecticide shall be not more than percentage points (units of difference between the percentage kill or knock-down by the "comparison" insecticide and the percentage kill or knock-down by the unknown) below the "comparison" insecticide in "average percentage knock-down" and shall be 16 percentage points or more above the "comparison" insecticide in "average percentage kill" when tested in accordance with the method specified.

Rodenticide, Warfarin, Concentrates
O-R-507a

Rodenticide covered by this specification is suitable for the control of commensal rats and mice. It shall be of the following classes: Class I.—Rodenticide, warfarin 0.5 per cent; Class II.—Rodenticide, warfarin 4.0 per cent.

The finished rodenticide shall be a fine, free-flowing powder devoid of

lumps. It shall be of such fineness that not less than 95 per cent shall pass through a 100-mesh U. S. Standard screen (dry test).

The composition of the finished rodenticide shall conform to the requirements shown in the table.

COMPOSITION: O-R-507a

Ingredient	*Class I Per Cent*	*Class II Per Cent*
Warfarin	0.50-0.55	4.0-4.4
Pigment	0.90-1.10	0.90-1.10
Cornstarch	Remainder	Remainder

The active ingredient of rodenticide warfarin concentrates shall be technical grade 3-(alpha-acetonylbenzyl)-4-hydroxy coumarin, hereinafter referred to as warfarin. This technical product shall be a fine, white or creamy white powder, melting at 159°-163°C., and containing not less than 98 per cent warfarin. It shall be free of objectionable odor or taste which might limit its suitability for the proposed end use.

Rodenticide warfarin class I shall contain not less than 0.5 per cent nor more than 0.55 per cent warfarin, and rodenticide warfarin class II shall contain not less than 4.0 per cent nor more than 4.4 per cent warfarin.

The pigment shall be a Nile green color, adequate for its proposed end use, and approved by the U. S. Department of the Interior, Fish and Wildlife Service.

The cornstarch shall conform to the requirements of the Pharmacopoeia of the United States. Percentage starch content shall be determined.

The finished rodenticide powder shall not lose more than 11.0 per cent of its weight when tested.

The toxicity and acceptability of the finished rodenticide powder shall be such that it yields a test score of not less than 80 when assayed as described.

The method employed in making the rodenticide powder shall be in accordance with best commercial practice. The product shall be clean, uniformly blended, and free of defects which may impair its utility.

Rodenticide: Fumigant Dust (42 Percent Calcium Cyanide Dust) O-R-501

Fumigant dust rodenticide covered by this specification shall be of one grade. A technical grade of fumigant dust rodenticide shall be essentially produced in accordance with best commercial practice.

The chemical and physical properties shall conform to the following requirements: Calcium cyanide — 42.0 per cent, min.; Particle size — 98.0 per cent shall pass a 100-mesh U. S. standard screen; Inert material — 58.0 per cent, maximum.

Rodenticide: Bait, Anticoagulant O-R-00500a Interim

This specification covers one type of rodenticide bait, anticoagulant which is suitable for the control of commensal rats and mice.

COMPOSITION (O-R-00500a)

Ingredient	*Percent*	
	Minimum	*Maximum*
Options		
1. Diphacinone	0.005	0.0055
Anticoagulant:		
2. Fumarin	0.025	0.028
3. Pival	0.025	0.028
4. Warfarin	0.025	0.028
5. PMP	0.05	0.055
Liquid petrolatum	4.8	5.2
Sugar	4.8	5.2
Dye	0.5	——
Breakfast rolled oats	Remainder	

The rodenticide shall consist of a chemical anticoagulant which may be warfarin, pival, diphacinone, PMP, or fumarin suitably compounded with petrolatum, sugar, rolled oats and a dye, the admixture conforming to the compositional requirements given in the table.

Pival shall be the pure chemical 2—pivalyl 1, 3-indandione. This pival shall be derived from a technical product which shall be a fine yellow or brownish-yellow powder, melting at 107°-110°C., and containing not less than 98 percent pival. It shall be free of objectionable odor or taste which might limit its suitability for the proposed end use.

Warfarin shall be the pure chemical 3 — (alpha-acetonylbenzyl) - 4 - hydroxycoumarin. This warfarin shall be derived from a technical product which shall be a fine white or creamy white powder, melting at 159°-163°C., and containing not less than 98 percent warfarin. It shall be free of objectional odor or taste which might limit its suitability for the proposed end use.

Diphacinone shall be the pure chemical 2-diphenylacetyl- 1, 3-indandione. This diphacinone shall be derived from a technical product which shall be a yellow crystalline powder, melting at 145°-147°C., and containing not less than 98 percent diphacinone. It shall be free of objectionable odor or taste which might limit its suitability for the proposed end use.

PMP shall be the pure chemical 2-isovaleryl-1, 3-indandion. This PMP shall be derived from a technical product which shall be a yellow powder, melting at 65°-67°C., and containing not less than 98 percent 2-isovaleryl-1, 3 indandione. It shall be free of objectionable odor or taste which might limit its suitability for the proposed end use.

Fumarin shall be the pure chemical 3 - (alpha-acetonylfurfuryl) - 4 - hydroxycoumarin. This fumarin shall be derived from a technical product which shall be a fine white or creamy white powder, melting at 120°-123°C., and containing not less than 98 percent fumarin. It shall be free of objectionable odor or taste which might limit its suitability for the purposed end use.

The liquid petrolatum shall be medicinal grade mineral oil, with a specific gravity of not less than 0.83 nor more than 0.86.

The sugar shall conform to the requirements of type I of Federal Specification.

The dye shall be an oil-soluble, brilliant red dye, approved by the Fish and Wildlife Service. It shall be equivalent to Flaming Red Dye No. G305, manufactured by the Ox Color Works, New York, N. Y.

The rolled oats shall conform to the requirements for type I, Regular, Rolled Oats, as specified.

Not more than 30 percent of the finished rodenticide shall pass through a No. 20 U. S. Standard woven-wire cloth sieve.

The finished rodenticide shall not lose more than 12 percent of its weight when tested as specified.

The toxicity and performance of the finished rodenticide shall be such that not more than 20 percent of the test animals shall survive when the product is tested as specified.

The finished rodenticide shall comply with the applicable provisions of the Federal Insecticide, Fungicide and Rodenticide Act.

Printed or mimeographed instruction sheets containing the following information shall be enclosed in each intermediate container: (1.) Do not breathe the dust or swallow any of the poison. Do not smoke or eat while handling the poison. Keep personnel contact with the rodenticide at a minimum. (2.) Keep all equipment labeled plainly, wash it thoroughly after use, and do not employ it for other purposes. (3.) Wash hands thoroughly after handling the poisoned bait.

Rodenticides, containing warfarin, pival, diphacinone, PMP, and fumarin reduce the blood coagulation rate and death ensues in most cases from internal hemorrhages. At concentrations recommended for rat and mouse control, warfarin, pival, diphacinone, PMP, and fumarin apparently are not detected, or, if so, their presence in food baits are not objectionable to rats and mice. It has been a frequent observation, both in the laboratory and in the field, that rats continue to attempt to feed on the baits when they are under the influence of the drug to such an extent that they lack the strength to stand.

This rodenticide will not give effective control when applied in a single

dose, but must be ingested several times (usually 5 or more) on successive days. These feedings need not be on consecutive days but should occur within a 10-14 day interval.

The control of rats, including roof rats, and house mice, has been obtained through the use of diphacinone, warfarin, pival, PMP, or fumarin baits, described in this specification.

Exposure of baits should be made by establishing an adequate number of protection bait stations. This can be accomplished by placing open trays of bait in rooms or areas about premises where domestic animals and small children can be excluded or through the use of properly constructed bait boxes. In many instances baits can be protected by improvised means with materials available on the premises. This is especially true where it is possible to employ scrap lumber for this purpose.

Feeding stations should be inspected at frequent intervals for the purpose of replenishing the bait supply where necessary. The frequency of inspections and size of bait placements will, of course, depend upon the degree of infestation encountered and in some instances daily servicing of the bait stations may be required during the first 4-5 days of a treatment. Bait consumption and rat activity usually drop markedly about 5 days after a rat population begins to feed on baits. Control is usually achieved in 10-14 days after feeding begins. Baits should be kept dry during use to maintain maximum acceptability.

It is often desirable to maintain properly protected bait stations with semi-permanent baits after control has been attained on premises which are particularly vulnerable to re-invasion.

Four to eight ounces of bait are suggested as the amount to be placed in each feeding station. Subsequent inspection will determine the correct amount to be added to each station.

In general, the same exposure technique should be used in employing baits for the control of mice as outlined for rat control; the principal difference, however, being that a larger number of placements should be made in areas in which the mice are known to feed. Those feeding stations may in some cases consist of only tablespoonful quantities.

Inspections should be made frequently enough throughout a treatment to maintain a continuous supply of bait available at each placement.

Warfarin, pival, diphacinone, PMP, and fumarin probably will kill any warm-blooded animal if consumed in the proper dosage over an adequate period of time. However, the concentration used in rodent control requires that on the basis of a single dose ingestion, relatively large quantities of the bait be consumed before domestic animals are seriously endangered. On the other hand, if daily feeding on warfarin, pival, diphasinone, PMP, and fumarin by domestic animals is allowed, much smaller amounts may be fatal. In one of the 521 exposures analyzed, a cat was said to have died from hemorrage as a result of preying on rats and mice killed from feeding on warfarin, pival, diphacinone, PMP, and fumarin baits. In view of this possibility, it is recommended that, where possible, dead rats and mice killed through the ingestion of these rodenticides be disposed of in a manner such that cats and dogs will not have access to them.

Warfarin, pival, diphacinone, PMP, and fumarin are anticoagulant chemicals, which, if taken accidentally by humans or domestic animals, may increase the clotting time of the blood and cause hemorrhage. Such hemorrages may be either internal or external and often hematoma are visible under the skin of animals affected with these substances.

In the case of accidental ingestion by humans, vomiting should be induced at once and a physician called. Treatment by the physician should include transfusion with whole blood and intravenous and oral administration of Vitamin K preparations as in the case of hemorrhage caused by Dicumarol.

The method employed in making the rodenticide shall be in accordance with best commercial practice. The product shall be clean, uniformly blended, and free of defects which might impair its utility.

Scouring Compound for Floors P-S-311

This specification covers three types of scouring compounds for floors: Type 1.—for fine marble floors; Type II.—for tile, ceramic or terrazzo floors; and Type III.—soap scouring compound.

Scouring compound for floors shall be white or light gray in color, unscented, and of uniform composition.

The composition of scouring compounds shall comply with the requirements specified in the Table.

The insoluble siliceous matter shall comply with the fineness requirements specified in the Table II. It shall not contain any bentonites.

Soap, Built, Higher-Tighter, Powdered P-S-563b

This specification covers a powdered, high-titer, built soap that is suitable for high-temperature laundering of all types of wearing apparel and linens except silk and woolens.

The composition of the soap shall conform to the requirements shown in the table.

The percentage of matter volatile at 105° C. shall be calculated on the basis of the soap as received, but all other constituents shall be calculated on the basis of material containing 16.0 percent of matter volatile at 105° C.

The soap shall be a uniform mixture of soap and alkalies in powdered form. It shall be readily soluble in hot water.

The odor of the soap as received or a hot water solution of the soap shall not be objectionable.

The finished soap bar shall be clean, firm, and free from defects affecting its utility.

COMPOSITION OF SCOURING COMPOUNDS (P-S-311)

	Type I Per Cent	*Type II Per Cent*	*Type III Per Cent*
Matter volatile at 105° ±2°C., maximum	10.0	10.0	6.0
Sum of sodium carbonate (Na_2CO_3) and anhydrous soda soap and/or active anhydrous, salt-free synthetic detergent:			
Maximum	7.0	....	....
Minimum	2.0	2.0	....
Anhydrous soda soap and/or active anhydrous, salt-free, synthetic detergent:			
Maximum	....	....	10.0
Minimum	....	....	3.0
Carbonated alkali, calculated as sodium carbonate (Na_2CO_3):			
Maximum	....	....	20.0
Minimum	....	....	6.0
Free alkali, calculated as sodium hydroxide (NaOH)			
Maximum	0.1	0.1	0.1
Insoluble siliceous matter:			
Maximum	95.0	95.0	90.0
Minimum	85.0	80.0	60.0

FINENESS OF INSOLUBLE SILICEOUS MATTER

	Type I Maximum Per Cent	*Type II Maximum Per Cent*	*Type III Maximum Per Cent*
Retained on —			
No. 60 U. S. standard sieve	1.0	1.0	1.0
No. 80 U. S. standard sieve	1.0	10.0	10.0
No. 100 U. S. standard sieve	1.0	....	....
No. 200 U. S. standard sieve	5.0	....	....

COMPOSITION — P-S-563b

Characteristics	*Minimum*	*Maximum*
Moisture and matter volatile at 105° C.	....	16.0
Sum of free alkali and total matter insoluble in alcohol (alkaline salts)	40.0	....
Matter insoluble in water	....	1.0
Titer of mixed fatty acids prepared from the soap	39°C.	....
Material retained on No. 12 sieve	....	1.5
Material passing a No. 140 sieve	....	20.0
Rosin acids (based on the finished product)	....	None
Anhydrous soap content	50.0	....
Free alkali, calculated as NaOH	....	16.0

COMPOSITION—P-S-566b

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 150°C.	10.0	....
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	6.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	0.2	....
Matter insoluble in water	1.0	....
Anhydrous soap	....	85.0
Titer of the mixed fatty acids prepared from the soap	....	39°C.
Rosin	None	....

Soap: Chip
P-S-566b

This specification covers a chip soap suitable for washing, and cleaning and scouring purposes with soft water, when the presence of alkaline salts is not desirable. It shall be of but one type.

Chip soap shall be a soap in chip form made from soda and fats, or fatty acids, without rosin, as free as possible from water and all substances other than true soap.

The composition shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed, and reported by the testing laboratory, on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 10 per cent.

The soap shall have a light uniform color.

The odor shall not be objectionable in the soap received, or in a hot water solution. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap, Grit (Cake)
P-S-571b

Grit cake soap covered by this specification shall be of the following types: Type I.—For fine work (such as required for cleaning glass and enamel ware). Type II.—For rough work (such as required for scouring and scrubbing purposes).

Grit soap shall be made from high quality soap and abrasives, uniformly mixed. Small amounts of other ingredients may be added to improve the quality of the soap.

Each cake of grit soap shall weigh not less than 9 ounces nor more than 10 ounces.

Grit soap, type I, shall be white in color. Grit soap, type II, shall be gray or tan.

The percentage of moisture and matter volatile at 105 ± 2°C. shall be computed and reported as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 4.0 per cent, in the case of type I and 5.0 per cent in the case of type II.

The material insoluble in water shall consist of not less than 85 per cent ground feldspar and shall be sufficiently fine that, when the soap and other soluble matter are extracted from the cake by digestion with water, 99 per cent of the material insoluble in water shall pass through a No. 100 sieve, and in the case of type I, 95 per cent shall pass through a No. 200 sieve.

Grit soap, type I, shall not scratch window glass or vitreous enameled surfaces.

The average loss in weight of the soap on immersion in water shall be not more than 10 per cent for type I and not more than 5 per cent for type II. Specimen cakes so tested shall show absence of crumbling, severe cracking, or other disintegration effects which indicate unsatisfactory serviceability of the product.

Soap: Grit, Hand, Cake
P-S-576b

Hand grit soap shall be a cake soap containing clean, finely divided insoluble siliceous matter, as free as possible from water, uncolored, mildly perfumed unless otherwise specified, and well compressed in firm, smooth cakes.

COMPOSITION OF TYPE I GRIT SOAP (P-S-571b)

Ingredient	*Per Cent by Weight Maximum*	*Minimum*
Moisture and matter volatile at 105° ± 2°C.	....	5.0
Anhydrous soap	6.0	10.0
Alkaline salts (calculated as Na_2CO_3)	....	1.5
Free alkali (calculated as NaOH)	....	0.1
Free acid (calculated as oleic acid)	....	5.0
Sugar or other foreign matter	None	None
Matter insoluble in water	Remainder	Remainder

COMPOSITION OF TYPE II GRIT SOAP (P-S-571b)

Ingredient	*Per Cent by Weight Maximum*	*Minimum*
Moisture and mater volatile at 105° ± 2°C.	....	6.0
Anhydrous soap	8.0	12.0
Alkaline salts (calculated as Na_2CO_3)	....	4.0
Free alkali (calculated as NaOH)	....	0.1
Free acid (calculated as oleic acid)	....	0.5
Sugar or other foreign matter	None	None
Matter insoluble in water	Remainder	Remainder

SOAP; GRIT, HAND, CAKE (P-S-576b)

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105°C.	25.0	....
Total alkalinity of matter insoluble in alcohol (alkaline salts), calculated as sodium carbonate (Na_2CO_3)	1.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	.1	....
Insoluble siliceous material	35.0	25.0
Insoluble siliceous material retained on a No. 100 sieve	2.0	....
Insoluble siliceous material retained on a No. 200 sieve	10.0	....
Rosin	5.0	....
Sugar and foreign matter	None	....
Anhydrous soap	....	35.0

COMPOSITION (P-S-00578)

	Minimum	*Maximum*
Moisture and matter volatile at 105°C.....percent	...	16.0
Sum of free alkali and total matter insoluble in alcohol .....percent	...	40.0
Matter insoluble in water..... do	...	1.0
Rosin	...	none
Anhydrous soap .....percent	50.0	...
Titer of mixed fatty acids prepared from the soap....	...	26°C.
Material passing No. 140 sieve.....percent	...	20.0
Materials retained on No. 12 sieve..... do	...	1.5

It shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 25 per cent.

Unless otherwise specified, each cake shall weigh not less than 8 ounces, nor more than 16 ounces.

Soap, Laundry: Built, Low Titer, Powdered P-S-00578 (interim)

This specification covers a low titer soap built with alkaline salts suitable for use at low temperatures. It shall be of one grade.

The composition of the soap shall conform to the requirements shown in the table.

The percentage of moisture and volatile matter shall be computed, and reported on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 16 per cent.

The soap shall be of a white or light amber color. When specified, the color of the soap furnished shall conform to that of the accepted sample.

The odor shall not be objectionable in the soap as received or in a solution of the soap in water at 100°F. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap, Laundry (Chip, Rosin-Type) P-S-581b

This specification covers rosin-type chip laundry soap for use in heavy-duty laundering, such as heavily-soiled occupational clothing, where high wash temperatures are required. It shall be of but one type.

The composition shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 15 per cent.

Laundry chip soap shall be a well-made, uniformly mixed soap in chip form, made from soda, rosin, and fats, and shall be of a uniform color. It shall dissolve readily in hot water.

The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water and not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap, Laundry (Granulated, Rosin-Type) P-S-583b

This specification covers rosin-type granulated laundry soap for use in heavy-duty laundering, such as heavily-soiled occupational clothing, where high wash temperatures are required. It shall be of but one type.

The composition of the soap shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 10 per cent.

Granulated laundry soap shall be a well-made, uniformly mixed soap in granulated or powdered form, made from soda, rosin, and fats, and shall be of a uniform color.

The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on objects after washing with a water solution and rinsing with hot water.

Soap, Laundry, Bar P-S-591e

This specification covers one type laundry bar soap, with or without rosin, for use in heavy-duty laundering, such as heavily-soiled occupational clothing, where normal wash temperatures are involved.

The soap shall be well-made, uniformly mixed laundry or common soap made from soda and fats, with or without rosin, and shall conform to the requirements shown in the table.

The percentage of moisture and volatile matter shall be computed, and reported by the testing laboratory, on the soap as received. The percentages of all other constituents shall be calculated and reported on on assumed moisture and volatile matter content of 36 percent.

The soap shall be in bar form. The finished bars shall be uniform in size, 4½ by 2¾ by 2¼ inches plus or minus ¼ inch in each dimension. The average bar weight of 10 cartons or 600 bars shall fall within a maximum and minimum tolerance of 3 percent of 16 ounce bar when calculated to a 34 percent moisture and volatile content.

A freshly cut surface of soap shall have a uniform color (a slight variation in color occurring within ¼ inch of any edge shall be disregarded).

COMPOSITION (P-S-581b)

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105°C.	....	15.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	....	12.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	.5
Free acid, calculated as oleic acid	....	.5
Matter insoluble in water	....	1.0
Chloride, calculated as sodium chloride (NaCl)	....	1.0
Rosin	....	20.0
Anhydrous soap	72.0	....
Titer of the mixed fatty acids prepared from the soap	29°C.	....

COMPOSITION (P-S-583b)

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105°C.	....	10.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	....	14.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	.5
Free acid, calculated as oleic acid	....	.5
Matter insoluble in water	....	1.0
Chloride, calculated as sodium chloride (NaCl)	....	1.0
Rosin	....	20.0
Anhydrous soap	75.0	....
Residue retained on a No. 12 sieve	....	2.0
Titer of the mixed fatty acids prepared from the soap	29°C.	....

REQUIREMENTS (P-S-591e)

	Minimum	*Maximum*
Moisture ond matter volatile at 105°C. .....percent	....	36.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride .....percent	2.0	11.0
Free alkali, calculated as sodium hydroxide (NaOH) .....percent	....	0.2
Free acid calculated as oleic acid .....percent	....	0.5
Matter insoluble in water .....percent	....	1.0
Chloride, calculated as sodium chloride (NaCl)...percent	....	1.0
Rosin .....percent	....	25.0
Anhydrous soap .....percent	52.0	....
Titer of mixed fatty acids prepared from the soap.....	29°C.	....

COMPOSITION (P-S-596c)

	Minimum Per Cent	*Maximum Per Cent*
Moisture and matter volatile at 150°C.	....	6.0
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	....	6.0
Free alkali, calculated as sodium hydroxide (NaOH) ...	....	0.2
Matter insoluble in water	....	1.0
Anhydrous soap	89.0	....
Residue retained on a No. 12 sieve	....	1.5
Rosin		None
Titer of the mixed fatty acids prepared from the soap....	39°C.	....

When specified, the color of a freshly cut bar shall be not darker than Color No. 30266 Federal Standard No. 595.

P-S-596c

This specification covers a white or light amber powdered laundry soap suitable for use in high temperature laundering of soiled cotton fabrics, and for general cleaning of soiled cotton fabrics, and for general cleaning with soft water. It shall be of but one type.

The composition shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 6 per cent.

Powdered laundry soap shall be a soap in powdered form made from soda and fats, without rosin, and shall be of a white or light amber color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap; Low-Titer (for Low-Temperature Washing)
P-S-600a

Type I.—Bar form.
Type II.—Other forms:
Class A.—Granular.
Class B.—Powdered.
Class C.—Flake.

The soap shall have a uniform color. The odor shall not be objectionable in the soap as received or in a solution of the soap in water at 125° to 130°F. The material shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Low-titer soap shall conform to the requirements in the accompanying table.

The percentage of matter volatile at 105°C. shall be computed and reported by the testing laboratory on the soap as received. The percentages of all other constituents shall be calculated and reported on the basis of material containing 32.0 per cent of volatile matter for type I or 7.0 per cent of volatile matter for type II. Percentages are by weight.

Type II shall be as resistant as possible to development of rancidity and heating during storage. The product shall have no objectionable odor for a minimum of 15 days.

Soap; Medium Titer
(interim)
(P-S-00602)

This specification covers soap intended primarily for use in cleaning wool fabrics, other fabrics, finished surfaces, leather, and other articles, where comparatively moderate-temperature washing solutions are indicated.

Soap covered by this specification shall be of one type and the following forms: Form 1.—Chip; Form 2.—Granular or powdered.

The composition of the soap shall conform to the requirements shown in the table.

The percentage of moisture and volatile matter shall be computed, and reported on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 7 per cent.

The soap shall be of a white or light amber color. When specified, the color of the soap furnished shall conform to that of the accepted bid sample.

The odor shall not be objectionable in the soap as received or in a solution of the soap in water at 120°F. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water. When specified, the odor of the soap, under the above conditions, shall conform to that of the accepted bid sample.

QUANTITATIVE REQUIREMENTS (P-S-600a)

	Type I		*Type II*	
	Maximum Per Cent	*Minimum Per Cent*	*Maximum Per Cent*	*Minimum Per Cent*
Matter volatile at 105° ± 2°C.	32.0	....	7.0	....
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	2.0	....	9.0	....
Water soluble sodium silicate	....	....	....	4.0
Free alkali, calculated as sodium hydroxide (NaOH)	0.1	....	0.4	....
Free acid, calculated as oleic acid	0.1	....	None	....
Matter insoluble in water	0.5	....	1.5	....
Rosin	None	....	None	....
Sugar	None	....	None	....
Copper (parts per million)	....	....	10.0	....
Unsaponified saponifiable matter	1.0	....	1.0	....
Anhydrous soap	....	64.0	....	81.0
Titer of the mixed fatty acids prepared from the soap	22°C.	....	22°C.	....
Iodine number (Wijs) of the mixed fatty acids prepared from the soap	90.0	74.0	90.0	74.0
Acid number of the mixed fatty acids prepared from the soap	205.0	180.0	205.0	180.0
Residue retained on a No. 12 sieve (class B only)	....	....	1.5	....
Organic oxidation inhibitor	....	....	....	[a]0.10

[a] Unless otherwise specified.

Soaps, Potash-Linseed Oil (Liquid and Paste, Floor and General Cleaning) P-S-603b

This specification covers liquid- and paste-type linseed oil soaps suitable for use in washing floors and linoleum. It shall be of the following types:

Type I.—Liquid.

Type II.—Paste.

Type I, liquid soap, shall be a uniform liquid soap made solely from whole neutral raw linseed oil and potash.

Type II, paste soap, shall be a uniform translucent, firm gel or paste made solely from whole neutral raw linseed oil and potash.

The composition of the soap shall conform to the requirements shown in the accompanying table. Percentages are by weight.

The percentage of moisture shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent (type II only).

Type I, liquid soap, shall be soluble in soft water and when diluted with water shall act as a cleaner. The flash point shall be above its boiling point. It shall not contain any solvents or oils that will damage floor surfaces. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II shall be a uniform translucent firm gel or paste soap of a yellowish-white to greenish-brown color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II shall dissolve readily to give a 0.15- to 0.2-per cent solution, using distilled water at 15.5° to 20°C. (60° to 68°F.). The solution so prepared shall yield at least 150 milliliters of suds.

A solution of type II in soft water shall act as a cleaner and shall not damage floor surfaces.

The material of each type shall not become rancid or otherwise deteriorate when kept in a closed container.

Soap-Powder P-S-606a

Soap-powder shall be of but one type. It shall be a uniform mixture of soap and sodium carbonate, and/or other alkaline salts, in powdered form. It shall be readily soluble in tepid water, shall contain no free caustic alkali or inert fillers, and free from objectionable odor.

Anhydrous soap shall be not less than 15.0 per cent; alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall be not less than 30.0 per cent; the sum of anhydrous soap and alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall be not less than 55.0%.

Soap, Toilet (Floating White) P-S-616d

This specification covers white floating cake soap suitable for use in personal bathing and general cleaning with soft water.

White floating toilet soap shall be of the following types: Type I.—Framed

COMPOSITION (P-S-00602)

		Minimum	*Maximum*
Moisture and matter volatile at 105°C.	percent	....	7.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	do	....	6.0
Sodium silicate	do	0.25	2.0
Free alkali, calculated as sodium hydroxide (NaOH)	percent	....	0.2
Free acid, calculated as oleic acid	do	....	0.2
Matter insoluble in water	do	....	1.5
Rosin		....	none
Sugar		....	none
Copper, parts per million		....	10.0
Anhydrous soap	percent	88.0	....
Titer of mixed fatty acids prepared from the soap		18°C.	33°C.
Iodine number (Wijs) of the mixed fatty acids prepared from the soap		75.0	135.0
Residue retained on a No. 12 sieve (Form 2 only)	percent	....	1.5
Organic oxidation inhibitor	do	0.05	....

COMPOSITION (P-S-603b)

	Type I		*Type II*	
	Minimum Per Cent	*Maximum Per Cent*	*Minimum Per Cent*	*Maximum Per Cent*
Moisture (toluene distillation method)	....	....	....	55
Total matter insoluble in alcohol	....	0.5	....	1.0
Free alkali, calculated as potassium hydroxide (KOH)	....	.05	....	.1
Free acid, calculate as oleic acid	....	.1	....	.2
Alkaline salts, calculated as potassium carbonate (K_2CO_3)	....	.1	....	.2
Matter insoluble in distilled water	....	.1	....	.2
Chloride, calculated as potassium chloride (KCl)	....	.3	....	.5
Unsaponified and unsaponifiable matter	....	.4	....	1.0
Anhydrous soap, calculated as potash soap	20	....	43	....
Total sodium compounds, calculated as Na_2O	....	.2	....	.5
Glycerol	1.8	....	4	....
Rosin	....	None	....	None
Sugar	....	None	....	None
Iodine number (Wijs) of mixed fatty acids derived from the soap	175	....	175	....
Acid number of mixed fatty acids derived from the soap	190	205	190	205

CHEMICAL REQUIREMENTS OF WHITE FLOATING TOILET SOAP (P-S-616d)

	Type I		*Type II*	
	Min.	*Max.*	*Min.*	*Max.*
Moisture and matter volatile at 105° C.	percent	34.0	....	24.0
Sum of free alkali, total matter insoluble in alcohol and sodium chloride	....	2.0	....	2.5
Free alkali, calculated as sodium hydroxide (NaOH)	percent	0.1	....	0.1
Chloride, calculated as sodium chloride (NaCl)	percent	1.0	....	1.2
Matter insoluble in water	percent	0.6	....	0.6
Anhydrous soap	percent 62.0	....	73.5	....
Unsaponified saponifiable matter (free fat)	percent	0.3	....	0.3
Rosin (qualitative test)	....	None	....	None
Sugar	....	None	....	None
Acid number of the mixed fatty acids prepared from the soap	212	....	212	....

COMPOSITION (P-S-621e)

	Maximum Per Cent	*Maximum Per Cent*
Moisture and matter volatile at 105°C.	....	15.0
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	....	3.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	0.1
Matter insoluble in water	....	1.0
Unsaponified saponifiable matter (free fat)	....	0.3
Anhydrous soap	83.0	....
Rosin, sugar, and foreign matter		None

white floating toilet soap having a moisture and volatile matter content not in excess of 34.0 per cent. Type II.—White floating toilet soap having a moisture and volatile matter content not in excess of 24.0 percent and so processed as to be free from warping and distortion upon aging.

White floating toilet soap shall be a cake soap mild and pleasant in odor, thoroughly saponified, and so prepared as to float on water. The soap shall be pressed to show the manufacturer's name or insignia. The color of a freshly cut surface of the soap shall be not darker than Color No. 37855 in Federal Standard No. 595. The original color shall be retained for a minimum period of six months from date of receipt of soap.

The material shall conform to the chemical requirements shown in the table.

The percentage of moisture and volatile matter shall be computed and reported by the testing laboratory on the soap as received. For type I soap, all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 34 percent. For type II soap, all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 24 percent.

The finished soap shall weigh 6 oz. (bath size), 3 oz. (regular size) and individual sizes of 2 oz., 1 oz., ¾ oz. and ½ oz. per bar plus or minus 3 percent as received based on an average weight determined by weighing a filled container as specified in the contract or order.

Soap, Toilet (Cake, Milled) P-S-621e

This specification covers a milled cake soap suitable for use in personal bathing. Milled toilet soap shall be of one type.

The soap shall be thoroughly saponified and its composition shall conform to the requirements shown in table.

The percentage of moisture and volatile matter shall be computed, and reported by the testing laboratory, on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 15 percent.

Milled toilet soap shall be a high-grade, milled, cake soap, either colored or uncolored, well compressed in firm, smooth cakes. It shall lather freely when used with cold soft water.

Unless otherwise specified, the soap shall be mildly perfumed.

The finished soap shall weigh 5 ounces (bath size), 3 ounces (regular size), 2, 1¾, 1½, 1, ¾ or ½ ounces (individual sizes) per bar, plus or minus 3 percent, as received.

Soap, Toilet, Liquid and Paste P-S-624b

This specification covers liquid toilet soap and paste (for making liquid toilet soap) for use in dispensers.

Toilet soap shall be of one grade and of the following types: Type I.—Liquid; Type II.—Paste.

The material shall be a clear solution of potash soap in water. The soap shall be produced by the saponification of either vegetable oils or distilled vegetable-oil fatty acids with potash.

The material shall be a firm gel or paste of potash soap in water. The soap shall be produced by the saponification of either vegetable oils or distilled vegetable-oil fatty acids with potash.

The composition of the soap shall conform to the requirements shown in the table. Percentages are by weight.

Type II, paste soap.—The percentage of moisture and of anhydrous soap shall be computed and reported on the basis of the sample as received. The percentages of all other constituents shall be computed and reported on the basis of an assumed moisture content of 40 percent.

The soap shall be mildly perfumed and the odor shall not be objectionable as received, or in hot water. The soap shall not leave any objectionable odor

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Soap, Toilet (Powdered, Dispensers) P-S-626c

The powdered toilet soap shall be of but one type. It shall be a thoroughly saponified soap in powdered form, made from soda and fats, shall be a uniform, free-flowing, noncaking powder, and shall lather freely when used with cold, soft water at room temperature.

Composition shall comply with the requirements in the accompanying table.

The percentage of matter volatile at 105° ± 2°C. will be computed on the basis of the soap as received, but all other constituents will be calculated to the basis of material containing 6 per cent of matter volatile at 105° ± 2°C.

The powdered toilet soap shall comply with the following fineness requirements: maximum retained on a No. 12 U. S. standard sieve, 1.5 per cent; minimum on a No. 45 U. S. standard sieve, 50 per cent; and minimum on a volved. Ordinary laundry bar soap shall be of but one type.

The composition of the soap shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and re-

COMPOSITION: P-S-624b

	Type I		*Type II*	
	Minimum	*Maximum*	*Minimum*	*Maximum*
Moisture (toluene distillation method) ....percent	..	..	..	40
Anhydrous soap (calculated as potash soap) ....percent	15	..	60	..
Free alkali (calculated as potassium hydroxide, KOH) ....percent	..	0.05	..	0.2
Free acid (calculated as oleic acid) ....percent	..	0.1	..	0.2
Alkaline salts (calculated as potassium carbonate, K_2CO_3) ....percent	..	0.2	..	0.3
Matter insoluble in distilled water ....percent	..	0.1	..	0.2
Matter insoluble in alcohol ....percent	..	0.5	..	1.0
Chloride (calculated as potassium chloride, KCl) ....percent	..	0.3	..	0.5
Sodium compounds (calculated as sodium oxide, Na_2O) ....percent	..	0.5	..	1.0
Sulfates ....percent	..	Trace	..	Trace
Rosin ....percent	..	None	..	None
Sugar ....percent	..	None	..	None
Iodine number (Wijs) of mixed fatty acids derived from the soap....	7	80	7	80
Titer of mixed fatty acids derived from the soap, °C.	15	28	15	28
Acid number of mixed fatty acids derived from the soap	215	270	215	270

ported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 36 per cent.

The soap shall be a well-made, uniformly mixed laundry or common soap in bar form, made from soda, rosin, and fats. The soap shall have a uniform color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on fabrics or objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap-Borax Powder For Dispensers P-S-628a

This specification covers soap-borax powder mixtures suitable for use in dispensers and of the following types:

Type I.—Without lanolin.

Type II.—With lanolin.

Soap-borax powder for use in dispensers shall be a uniform mixture of a thoroughly saponified soap and borax ($Na_2B_4O_7 \cdot 10H_2O$), free from grit and harsh abrasives, and shall be uniform, free-flowing, and noncaking.

The composition of soap-borax powder shall comply with the requirements specified in the accompanying table.

Compute the percentages of the constituents on the basis of the material as received, calculating the borax as the decahydrate—$Na_2B_4O_7 \cdot 10H_2O$. Borax ($Na_2B_4O_7 \cdot 10H_2O$) effloresces in warm, dry air. If this has occurred, the sum of the percentages from the computation on the "as-received" basis will exceed 100. If the results are greater than 100 per cent, calculate the percentages of anhydrous soap and of borax ($Na_2B_4O_7 \cdot 10H_2O$) by the following formula:

$$\%\ \text{on}\ 100\%\ \text{basis} = \frac{A \times 100}{S}$$

where:

A=percentage found

S=sum of the percentages on the "as-received" basis

The soap-borax powder shall produce not less than 100 milliliters foam.

The soap-borax powder shall comply with the following fineness requirements: Type I, maximum retained on No. 12 U. S. standard sieve, 0.00 per cent; minimum on No. 45 sieve, 5 per cent; minimum on No. 100 sieve, 45 per cent. Type II, maximum retained on No. 30 U. S. standard sieve, 0.10 per cent; minimum retained on No. 45 sieve, 5 per cent; minimum retained on No. 100 sieve, 20 per cent.

The soap-borax powder shall be uncolored or tinted.

Rosin, sugar, and other foreign matter shall not be present.

Unless otherwise specified, the soap-borax powder shall be mildly perfumed.

Sour, Laundry, Fluoride Type P-S-683

This specification covers a fluoride type laundry sour used in washing formulas to neutralize the alkali remaining in the load, and to remove rust stains and prevent discoloration. The sour is applied by dusting on the revolving cylinders of washing machines.

The laundry sour shall be a free flowing homogenous mixture of sodium silico-fluoride and sodium acid fluoride, and shall be furnished in either powder or crystalline form. There shall be no indication of "caking" in the container when received.

The laundry sour shall contain not less than 95 per cent by weight, of a mixture of sodium silicofluoride and sodium acid fluoride, neither of which shall be less than 44.0 per cent of the total composition. The laundry sour shall not contain wetting agents or impurities or adulterants which may be injurious to fabrics or laundry equipment.

The oxalic acid content of the laundry sour shall not exceed 0.04 per cent.

The insoluble matter shall not exceed 3 per cent by weight.

Not less than 85 per cent, by weight, of the laundry sour shall pass through a No. 80 sieve.

Sweeping Compound P-S-863a

This specification covers three types of sweeping compound. Type I is suitable for use on wood, steel, and other floorings

COMPOSITION (P-S-626c)

	Minimum Per Cent	*Maximum Per Cent*
Moisture and matter volatile at 105°C.	....	6.0
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	....	2.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	0.1
Matter insoluble in water	....	0.2
Anhydrous soda soap	91.0	....
Rosin, sugar, and foreign matter	None	

COMPOSITION (628a)

	Type I		*Type II*	
	Minimum Per Cent	*Maximum Per Cent*	*Minimum Per Cent*	*Maximum Per Cent*
Anhydrous soda soap	23.0	27.0	35.0	39.0
Borax calculated as $Na_2B_4O_7 \cdot 10H_2O$	72.0	77.0	57.0	63.0
Lanolin	....	0.0	2.5	3.5
pH value	9.0	10.2	8.5	9.5
Matter insoluble in water	....	0.2	....	0.3

PHYSICAL AND CHEMICAL REQUIREMENTS (P-S-863a)

	Type I		*Type II*		*Type III*	
	Minimum	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Maximum*
Volatile matter at 105°C., weight per cent	—	12	—	12	—	12
Flammable vapors		None		None	None	None
Extractable oil, weight per cent	25	35	—	—	—	—
Acid number	—	17	—	—	—	—
Saponification number	—	20	—	—	—	—
Sand or substitute, weight per cent	30	40	50	60	—	—
Retained on No. 20 sieve, weight per cent based on sand content	—	1.0	—	1.0	—	—
Sawdust, weight per cent	18	—	15	—	45	60
Retained on No. 12 sieve, weight per cent based on sawdust content	—	1.0	—	1.0	—	1.0
Passing through No. 40 sieve, weight per cent based on sawdust content	—	15.0	—	15.0	—	15.0
Waxes and emulsifiers, weight per cent	—	—	20	30	40	55
Ash Content, weight per cent	—	—	—	—	—	3.0
Salt (sodium chloride), weight per cent	—	0.2	—	0.2	—	0.2
Odor	Not objectionable.		Not objectionable.		Not objectionable.	
Staining	—	—	Negative		Negative	

which are not varnished, sealed, painted or waxed and which are not affected by sand or mineral oil in the product. Type II is suitable for floors at locations where oil is undesirable; for example, garages, platforms, machine shops, and warehouses.—Caution: Not recommended for use on waxed wooden floors, composition and resilient floors in hospitals and office spaces. Type II is non-spotting and non-staining. Type III contains neither sand nor oil. It is suitable for use on composition and resilient floors at locations where sand and oil are undesirable. Type III is also nonspotting and nonstaining.

Sweeping compound shall be furnished in the commercial grade and in the following types: Type I.—sawdust-sand-mineral oil; Type II.—sawdust-sand-water wax emulsion; and Type III.—sawdust-wax base.

Sweeping compound shall conform to the physical and chemical requirements in the table.

The sand shall be free of clays and animal organic matter.

Composition (PS-560)

	Type I		Type II			
			Class 1		Class 2	
	Percent by weight		Percent by weight		Percent by weight	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Moisture (toluene distallation method)[1]	....	....	....	55.0	.....	60.0
Total matter insoluble in alcohol	....	0.5	....	1.0	....	....
Free alkali, calculated as potassium hydroxide (KOH)	....	0.05	....	0.1	....	0.1
Free acid, calculated as oleic acid	....	0.1	....	0.2	....	0.2
Alkaline salts, calculated as potassium carbonate, (K_2CO_3)	....	0.1	....	0.2	....	0.2
Matter insoluble in distilled water	....	0.1	....	0.2	....	0.2
Chloride, calculated as potassium chloride, (KCl)	....	0.3	....	0.5	....	0.5
Unsaponified and unsaponifiable matter	....	0.8	....	1.8	....	1.8
Anhydrous soap, calculated as potash soap	20.0	....	43.0	....	43.0	....
Total sodium compounds, calculated as sodium oxide	....	0.2	....	0.5	....	0.5
Glycerol	....	1.8	....	4.0	3.0	....
Rosin Acids, percent	....	1.0	....	2.0	....	2.0
Sugar	....	none	....	none	....	none
Numerical values						
Iodine number (WIJS) of mixed fatty acids derived from the soap	80	150	80	150	....	....
Acid number of mixed fatty acids derived from the soap	190	205	190	205	190	205

[1]Computation (type II only).—The percentage of moisture shall be computed and reported by the testing laboratory on the soap as received. To make calculations multiply the percentages of constituents other than moisture and volatile matter by factor (F) derived as follows:

$$F = \frac{100 - 5}{100 - \text{Percent moisture and volatile matter}}$$

The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 percent.

When specified, feldspar or moulders sand may be used.

The sawdust shall be clean and free of objectionable odor.

When specified, sisal fibre cuttings or ground excelsior may be substituted entirely or partially for the sawdust. The ground excelsior shall meet the following sieve test: Weight retained on No. 8 sieve, maximum = 10 per cent.

Oils and waxes shall be free of objectionable odors.

The product shall be furnished in the natural color or artificially colored in light shades. If artificially colored, the coloring agents shall not stain flooring.

Polish; Automobile, Liquid
P-P-546

Polish, automobile, liquid, shall be furnished in one type and one grade.

The liquid automobile polish shall be suitable for use on lacquer, baked enamel, and synthetic enamel finishes and shall have no objectionable odor.

It shall be a stable aqueous emulsion containing a suitable abrasive in suspension. The polish shall be a free flowing fluid that can readily be applied with a cotton cloth and shall spread easily.

It shall meet the following requirements: nonvolatile matter (total solids) shall be not less than 25 per cent, by weight.

Ash content (based on nonvolatile matter shall be not less than 35 per cent nor more than 50 per cent, by weight. Free caustic alkali-none; the neutralization number of the polish shall be not more than 5; all of the material shall pass through a No. 200 sieve, and not less than 95 per cent (based on ash content) shall pass through a No. 325 sieve; the volatile matter shall be essentially water.

Soap, Automobile and Floor, Liquid and Paste
P-S-560

This specification covers liquid and paste type soaps suitable for use in general cleaning, automobile, floor, etc., tire tube lubrication, and oxygen system leak testing.

It shall be of the following types and classes: Type I.—Liquid; for general cleaning and in undiluted form for detecting gas leaks (as in oxygen systems). Type II.—Paste. Class 1. for general cleaning. Class 2. for use as tire tube lubricant

Type I soap shall be a uniform liquid made solely from potash and either whole neutral vegetable oils, distilled vegetable-oil fatty acids or distilled vegetable-oil fatty acids and rosin acids.

Type II soap shall be a firm, uniform translucent gel or paste made solely from potash and either whole neutral vegetable oils, distilled vegetable-oil fatty acids or distilled vegetable-oil fatty acids and rosin acids.

Composition of the soaps shall conform to the requirements shown in the table.

The soaps shall be readily and completely dissolved in distilled water at 15.5° to 20° C. (60° to 68° F.) to give a 0.15 to 0.12 percent solution. This

solution shall yield at least 150 ml. of suds.

The soaps shall have flash points above their boiling points.

The soaps shall not become rancid or separate or otherwise deteriorate.

Type I soap, as received, and 20 percent water solutions of type II soaps shall be not darker than number 17 of the Gardner Color Scale.

Cleaning Compound, Synthetic Detergent, Non-Abrasive, All Purpose
P-C-431a

This specification covers general maintenance commercial cleaning compounds containing synthetic detergents.

The compound covered by this specification shall be of one grade only, and of the following types:

Type I.—Powder or flake.
Type II.—Liquid.
Type III.—Paste.

The compound shall be a uniform homogenous product, free from any objectionable odor, and shall contain synthetic organic detergents. It shall contain no abrasives or fatty acid soaps and shall not be irritating to the skin. It shall be satisfactory for floor and wall maintenance with soft or hard water.

The pH value of a 1.0 percent (by weight) distilled water solution of the compound shall be not less than 5.5 nor more than 9.5.

The compound shall be completely soluble in distilled water.

The compound shall be free-rinsing.

Types I and III.—A solution of 5 grams of compound in a liter of synthetic hard water shall exhibit a cleaning efficiency of not less than 80 per cent.

Type II.—A solution of two per cent by volume (2 volumes of compound to 98 volumes of synthetic hard water) shall exhibit a cleaning efficiency of not less than 80 per cent.

A 0.2 per cent (by weight) solution of the compound shall not cause greater than one-half of the loss of 60 degree specular gloss of painted surfaces caused by a 0.2 per cent solution of trisodium phosphate.

Cleaning Compound, Alkali Type
P-C-436a

This specification covers one class of alkaline cleaning compound suitable for use in the hot soak tank cleaning of ferrous and nonferrous alloy parts.

The raw materials used in manufacture of these compounds shall be of high quality, intimately assembled and processed so as to produce a granular product which will remain uniform in composition and show no evidence of segregation or caking during handling or storage. The compound when used as a hot soak cleaner at boiling temperature and a concentration of 7.5 per cent (7.5 grams of compound in 100 ml. of solution) shall effectively remove asphalt, mineral oil, grease and road dirt from metal parts. Nonferrous metals shall not be attacked under these conditions.

The cleaning compound is not required to conform to definite chemical composition requirements. The manufacturer is given wide latitude in the selection of raw material and processes of manufacture, provided that the product meets all applicable requirements of this specification. The compound shall not contain any toxic or volatile substances, such as chlorinated hydrocarbons, phenolic compounds, benzene, or the like.

The cleaning compound, alkali-type, shall be equal or superior in effectiveness to the comparison formula in all respects when tested. The compound covered by this specification shall be tested simultaneously with the comparison alkali-type cleaning compound.

The cleaning compound covered by this specification shall be equal or superior to the standard comparison cleaning compound prepared and tested under the same conditions, in ability to remove mineral oil and asphalt soils from metal surfaces.

The compound covered by this specification, when boiled for 40 hours, shall be equal or superior to the standard comparison formula, prepared and tested under the same conditions, in ability to remove soils from metal surfaces.

The cleaning compound, alkali-type, shall not attack aluminum. When tested in accordance with specifications, there shall be no loss in weight of aluminum test panels, nor any visible staining, discoloration, etching or pitting of the test specimens.

The pH value of a distilled water solution of the compound at a concentration of 7.5 per cent (7.5 grams of compound in 100 ml. of solution) shall be not more than 12.1 when tested at 25°C.

The dust forming properties shall be such that the dust shall settle within a period of five seconds.

The surface tension of a 0.05 per cent solution (0.05 grams of compound in 100 ml. of solution) of the compounds in distilled water at 25°C. shall be not more than 36 dynes per centimeter.

The average penetration shall be not less than 30.0.

The difference of the percentages of any ingredient of the compound (such as silicates, carbonates, or total phosphates) taken from different portions of a container shall not exceed 2 per cent of the average percentage of that ingredient in the compound.

The compound shall be manufactured in accordance with the best commercial practice to produce a high quality material which is stable and not subject to change during storage in a sealed container.

Compound: Cleaning, Soap-Abrasive-Type
(For Painted Surfaces)
P-C-565

Compound, cleaning, shall be furnished in one type and one grade.

The cleaning compound shall have no objectionable odor and shall not be harmful to the hands.

As received, it shall be a uniform soft paste and shall meet the following requirements:

Matter volatile, at 105°C. shall not exceed 65 per cent, by weight.

It shall contain not more than 0.1 per cent, by weight, free alkali calculated as NaOH and shall contain not more than 0.5 per cent, by weight, free acid calculated as oleic acid.

Alkaline salts, calculated as NA_2CO_3, shall not exceed 5 per cent, by weight.

Insoluble siliceous matter shall be not less than 25 per cent nor more than 50 per cent, by weight. All of the insoluble siliceous matter shall pass through a No. 80 sieve; and not more than 15 per cent of the insoluble siliceous matter shall be retained on a No. 200 sieve.

Anhydrous soap shall be not less than 3.5 per cent, by weight.

Polish: Metal
P-P-556a

Metal polish shall be of the following types:

Type I.—Powder.
Type II.—Liquid.
Type III.—Paste.

Metal polish of each type shall be of but one grade.

All types of metal polish shall have—(a) Good tarnish removing properties. (b) Good luster-producing properties.

They shall give good protection of the polished surface against tarnishing influences, and shall be so constituted that, by reason of application and polishing, they shall not scratch metals; shall not leave the metal discolored or caked with abrasive material; shall not be detrimental in any manner to metals; shall not show any unnecessary caking of type I or III polish in the containers. The abrasive material in liquid (type II) polish, shall show no caking in the container, which cannot be readily put into suspension by thoroughly shaking the containers.

The abrasive material shall be of such particle size that 100 per cent will pass through a No. 200 sieve.

Metal polish shall be free from acids, cyanide of potassium or other cyanides, grit, or other ingredients having detrimental effects on metals.

It shall clean quickly, leaving a bright polished surface, with a full luster for the material being polished.

The polished surface shall remain free from corrosion or discoloration for a period of at least 24 hours.

Polish, metal, furnished under this specification shall have good keeping qualities and be guaranteed for 1 year from the date of actual receipt at point of delivery specified in the contract or order.

The amount of volatile matter, at 105° to 107°C., in either type II or III polish, shall not exceed 70 per cent by weight, of the polish.

The flammability of the liquid contents of types II and III polishes shall be not less than 39°C.

Glass Cleaner, Liquid
P-G-406

Liquid glass cleaner covered by this specification is intended primarily for use on windshields, windows and other glass surfaces and is not intended for use on transparent plastics. It shall be of but one grade and of the following types: Type I. — Regular; Type II. — Antifogging.

The component raw materials in the compound shall be suitable for the purpose intended and as specified hereinafter, and shall not include dyes, waxes, perfumes, ammonia, or inorganic alkalies.

It shall be stable under ordinary conditions of storage and handling and shall show no tendency to decompose, emulsify, or separate into layers at normal temperatures.

It shall be nonirritating to the skin and shall contain no toxic ingredients other than denaturants for alcohol.

The odor shall be no more objectionable than the comparison solution specified.

The flash point of the liquid shall be not less than 27°C. (80°F.).

The pH value of the liquid shall be not less than 7.0 nor more than 9.0 at 25°C.

The liquid shall not attack or produce more discoloration of aluminum alloys than that caused by the comparison solution.

The liquid shall not produce more softening, discoloration, or change in the surface appearance of enamel or lacquer finish than the comparison solution.

When the compound is properly applied to glass surfaces and polished, it shall leave the surface free from dust, grime, and ordinary soil materials, and shall produce an appearance equal to or better than that produced by the comparison solution.

The residue on evaporation of 50 milliliters shall not exceed the following requirements:

	Residue in grams
Type I	0.005
Type II	0.005

Antifogging (type II) shall produce antifogging characteristics on glass.

Detergent, Hand; Paste and Powder, Mechanic's P-D-00221b (Navy Ships) (Interim)

This specification covers paste and powder hand detergents for removing oil, grease and other occupational soils.

The detergents shall be of the following types: Type I — Hand grit-paste detergent. Type II — Hand scouring powder with mineral abrasive. Type III — Hand scouring powder with vegetable abrasive.

Type I detergent shall be a uniform mixture of thoroughly saponified soap and mineral abrasives in paste form.

Type II detergent shall be a uniform, free-flowing, non-stratifying mixture of thoroughly saponified soap and mineral abrasives in powder form.

Type III detergent shall be a uniform, free-flowing, non-stratifying mixture of clean corn meal, corn cob meal, wood flour meal, or any combination thereof, thoroughly saponified soap and lanolin in powder form. The mixture shall contain no rosin, sugar, pine oil, nor mineral abrasives, such as lava, pumice, sand or quartz.

Hand detergents shall be mildly perfumed so as to produce a pleasant odor.

The hand detergents shall conform in composition to the accompanying table.

The hand detergents shall produce not less than 100 milliliters foam.

A solution of types II and III prepared as specified shall have a pH of between 9.0 and 10.0. The addition of 2 milliliters of 0.1N hydrochloric acid to this solution shall not reduce the pH to below 9.0 at 25°C.

COMPOSITION: P-O-00221b

Characteristics	*Per cent by weight*					
	Type I		*Type II*		*Type III*	
	Min.	*Max.*	*Min.*	*Max.*	*Min.*	*Max.*
Matter volatile at 105° ± 2°C.	....	55.0	....	5.0	....	12.0
Alkaline salts (calculated as sodium carbonate)	....	3.0	2.0	5.0	....	7.7
Free alkali (calculated as sodium hydroxide)	....	0.1	....	0.1	....	0.1
Free acid (calculated as oleic acid)	....	0.5	....	0.5	....	0.5
Anhydrous soda soap	8.0	....	17.0	....	24.5	....
Lanolin	....	....	....	....	3.0	....
Matter insoluble in water	25.0	50.0	60.0	76.0	45.0	55.0
Fineness of insoluble siliceous matter; Per cent retained on:						
No. 40 sieve	....	1.0	....	1.0	....	....
No. 60 sieve	10.0	20.0	....	5.0	....	....
No. 80 sieve	30.0	45.0	....	....	....	....
No. 100 sieve	35.0	55.0	....	30.0	....	....
No. 200 sieve	60.0	....	....	60.0	....	....
Fineness of finished detergent; Per cent retained on:						
No. 20 sieve[1]	....	....	....	....	....	10.0
No. 100 sieve	....	....	....	....	90.0	....
Rosin	....	....	....	5.0	....	none
Sugar	....	none	....	none	....	none

[1] Particles shall be soft and friable, not solid or hard.

PEET-GRADY METHOD

(*From Page 220*)

dried, non-fat-filk solids and 2 per cent granulated sugar thoroughly dispersed in water. Roller dried or caked milk solids settle out of suspension within a few hours and are unsuitable as food. A 40 per cent formalin solution may be added to the food at the rate of 1/1500 to delay souring. Each cage is supplied daily with a dish containing at least 15 ml. food for each 100 flies, and so prepared as to prevent the flies from drowning. Satisfactory food must be available to the flies at all times. The adult flies are held until the second day of oviposition (usually 12 to 14 days after eggs are seeded) when they are ready for testing.

B. Testing Flies: Before a fly spray test is started, the Peet-Grady chamber must be clean and have clean paper on the floor, all ports and openings must be closed, the temperature must be 82 ± 2°F., and all windows must be shaded equally. In both procedures, only flies which are capable of flying may be liberated into the Peet-Grady chamber. In the large group procedure all flies in one cage are used in a single test, but in the small group method a sample of 100 ± 5 flies is used in each test. Samples may be taken by liberating the flies directly into the chamber and continuing until about 10 per cent of flies remain in the stock cage. These are discarded. The order of spray treatments must be randomized as discussed in Section IV, paragraph 6.

Immediately after liberating the flies in the chamber, a total of 12 cc. of insecticide shall be sprayed in equal quantities through each spray hole. The nozzle of the atomizer shall be oscillated slowly in a horizontal plane to avoid spraying walls and ceilings and to effect uniform distribution of the spray. This procedure shall be completed within one minute from the time the spraying was started and the chamber must remain closed at a constant temperature in the range of 82 ± 2°F. for a total of 10 min. At the end of this period the ports are opened and the chamber is ventilated by means of the exhaust fan while the flies are collected.

The paralyzed flies are picked up and transferred immediately to clean cages meeting the specifications of Section II, paragraph D. These flies may be counted when they are picked up or later, depending upon which time is most convenient. During the subsequent 24-hr. recovery period, the cage is placed in the rearing room and supplied with an adequate quantity of a 5 per cent sugar solution, arranged so that the top of the dish is not more than ¾ inch above the floor of the cage and flies

cannot drown in it. A gauze-wrapped ball of cotton saturated with 5 per cent sugar solution also is satisfactory.

The unparalyzed flies in the chamber at the end of the 10-min. exposure period must be counted and discarded.

After a test is completed, all toxic residues must be removed from the chamber. The paper on the floor must be renewed and the inside walls and ceiling must be cleaned thoroughly. Wiping with a clean cloth saturated with alcohol containing 10 per cent acetone or washing with soap and water will remove a number of toxic residues. However, special cleaning precautions may be required after tests with certain chemical compounds in order to remove their toxic residues. Contamination by many compounds may be detected by holding flies with food overnight in the cleaned chamber. The chamber is considered contaminated if more than 8 per cent of flies are either paralyzed in 30 minutes or are dead in the morning.

C. Assembling the Data: The number of unparalyzed flies must be counted and recorded at the end of the 10-min. exposure period. The dead flies are counted 24 hours (± 1 hr.) later preferably by removing them from the recovery cage. Only flies that show no sign of life upon being touched may be counted as dead. If paralyzed flies were counted as they were collected, the sum of paralyzed and unparalyzed flies yields the total flies in the test. If paralyzed flies were not counted as collected, the recovered flies are killed by placing the cage in an oven at 170°F. for a few minutes, after which they are counted. The sum of recovered and dead flies yields the paralyzed flies and this sum added to the unparalyzed flies yields the total flies used in the test. The mortality is the per cent dead of total flies and the knockdown is the per cent paralyzed of total flies.

IV. CONDITIONS FOR OFFICIAL EVALUATION

1. The tests shall be conducted in accordance with the procedure previously described and no official Peet-Grady rating may be assigned unless the tests meet all requirements.

2. At least 2 cultures of flies shall be used in making an official evaluation.

3. Cages showing a combined mortality and crippling greater than 8 per cent on the day of test shall not be used.

4. An unknown insecticide to be officially rated shall have a knockdown percentage equal to that of the OTI with a tolerance of minus 2.

5. The kill by the OTI shall fall between 30 and 55 per cent in all tests. The toxicty of an unknown spray shall be reported by a grade letter, obtained by subtracting the average kill by the OTI from the average kill by the unknown spray and comparing this result with the following figures:

Grade Letter		*Kill Difference*
AA	:	+16 or greater
A	:	+6 to +15
B	:	+5 to —5

6. In the small group procedure no more than 2 unknown samples may be tested in conjunction with one OTI in any one series. Ten tests are run on the OTI and on each of the unknowns in parallel; that is, test each spray the same number of times on flies of the same culture and test all sprays the same number of times on any one day. The samples of a series must be randomized in the order of testing. For example, number the samples and the OTI, and test them in the order 1, 2, 3; 2, 1, 3; 3, 2, 1, etc., until each has been tested ten times. After the mortality data are obtained, calculate the average kills and determine the difference between that of the unknowns and that of the OTI. In order for these differences to be valid, the standard error of the mean difference between the average OTI kill and the average unknown kill must be less than 3. If it is 3 or greater, the test results were too variable and to make the results valid, additional paired tests must be run to reduce the figure to a value less than 3. The example in Table I illustrates the arangement of test data and calculations described in the preceding paragraphs. When two unknown samples and the OTI are tested in series, the first table should consist of differences between Sample No. 1 and the OTI, the second table should show differences between Sample 2 and the OTI. 1.14 is less than 3, thus indicating the test has been properly conducted. The letter n (in the formula) denotes the number of paired tests. This number is always 10 except when it is necessary to run additional tests to reduce the standard error of the mean difference to 3 or less.

The percentage kill of Sample 1 minus the percentage kill of OTI is +4; therefore, Sample 1 is a "B" grade insecticide.

7. In the Large Group procedure the evaluation is carried out as follows:

The evaluation is based on the difference in mortality of the OTI and the unknown as determined by a minimum of 4 tests. The order of testing shall be random and replicated OTI tests on any culture shall agree within 10 points. Table II illustrates one arrangement of testing, the computation of the test results, and the grading of the sprays.

References

(1) Goodhue, L. D., and Linnard, C. E., 1950. Air Separation Apparatus for Cleaning Fly Pupae. Jour. Econ. Ent. 43: 228.

(2) Incho, H. L., 1954. A Rapid Method for Obtaining Clean House Fly Pupae. Jour. Econ. Ent. 47:938.

DETERMINING PRESSURE OF AEROSOL INSECTICIDES AND ROOM DEODORANTS

(*From Page 229*)

back pressuring through the prepressurizing valve after first isolating the gage by closing the gage valve.

Discussion

It is suggested that a standard consisting of an accurately-filled dispenser having a similar container and valve as the test samples be used to check the proper functioning of the measuring system. The OTA dispenser would serve satisfactorily to check concave style cans. The standard should be used to start off a series of measurements and be used at regular intervals throughout the series.

The process of prepressurizing should be done in such a way that the nitrogen will purge out the air in the system. If the nitrogen cylinder does not have a regulator, great caution must be exercised to prevent damage to the gage. A vacuum pump may also be used to draw air from the system. Here again care must be taken to prevent bending the pointer and throwing the gage out of calibration. The use of a compound gage is the best solution.

Prepressurizing may be accomplished most conveniently and without chance of injuring the gage by using a dispenser filled with the propellent gases alone in the same proportions as the product being tested.

TESTING LIGHTWEIGHT AEROSOL CONTAINER PRESSURE

(*From Page 228*)

change in prepressurizing pressure until needle movement reverses or does not occur. If no movement occurs, open valve (1), record gage reading, and barometric pressure. If movement reverses, increase or decrease pressure by 1 p.s.i. depending on indicator movement. Open valve (1) and record gage reading. Record barometric pressure, and correct to sea level. This is the true internal pressure of the aerosol. If a pressure is desired at another temperature, the bath may be adjusted and the pressure obtained at the second temperature in the same way. Once the measurements are obtained on a container, the pressure may be gradually relieved by closing valve (2), and opening valves (1) and (3), then disconnecting apparatus from can. Three cans of a product should be checked and the average reading taken as the final pressure.

Discussion

Proven accuracy at this time has been shown to be plus or minus 1.5 p.s.i. at 70°F. and plus or minus 3.0 p.s.i. at 130°F. It is believed that the method is considerably more accurate than this, but attempts to show it from light weight aerosol cans have been unsuccessful be-

cause of pressure variation from can to can.

Further tests are currently underway to reduce this pressure variation from can to can, and thereby determine the true accuracy of the method.

DETERMINING VOLATILE—NON-VOLATILE OF AEROSOLS

(*From Page 230*)

off through side arm. When boiling has subsided, *gently* apply vacuum to flask to avoid excessive bubbling and resultant loss of liquid. Apply continuous vacuum at 120°F. for approximately thirty minutes. Release vacuum and swirl flask gently. Reapply vacuum for about thirty seconds. Repeat three or four times and weigh. At this point, the known sample should be subjected to several brief vacuumings with weighings after each one. The point at which the correct percentage of non-volatile is reproduced (end point) should be used to determine the percentage of non-volatile in the unknown samples. In the event that a known cannot be prepared, a series of vacuumings and weighings should be carried out on the unknown until weight loss appears slight and reasonably constant. Once the procedure is established, weighings may be eliminated until the final end point is reached. Record final weight as flask plus non-volatile weight.

Calculations

Total sample weight equals total weight minus can tare (4).

Non-volatile weight equals flask plus non-volatile minus flask tare.

Percent non-volatile equals

$$\frac{\text{non-volatile weight}}{\text{total sample weight}} \times 100.$$

Discussion

The above procedure generally appears to be satisfactory for most products within the scope of the test. Modifications may be made to make it more suitable to fit a specific purpose. For example, it may be undesirable to attach a thief to a dispenser because of destruction of the container making it necessary to sample the container through the aerosol valve. This may be accomplished by weighing the sample and introducing it into the vacuum flasks by spraying into a short length of plastic tubing which can be fitted rather closely over the nozzle. The tubing is projected as far into the flask as possible through a cotton plug, the sample is taken and the tubing is simply dropped into the flask having been included in the tare weight of the flask previously. A small bit of cotton, or some other suitable absorbing material, should be included to wipe off any excess liquid from around the base of the valve which does not go into the tube. This also must be included when taring the flask and should be dropped into the inside of the flask when used.

If at all possible, a vacuum line should be equipped with a gauge to indicate the vacuum being produced. This is particularly necessary since the propellant being pulled off through the vacuum line is quite soluble in the oil and could effectively dilute or thin the oil in the vacuum pump, resulting in a loss of vacuum produced.

The 120° temperature to which the samples are subjected was selected to avoid decomposition of insecticidal ingredients so that the non-volatile portion could subsequently be used for entomological tests. If this is unnecessary, higher temperatures may be used but with a shorter vacuum time as determined by trial and error. Care should be taken to avoid excessive distillation as it is possible to distill some relatively high boiling materials and thus come up with a low answer. Also, a low answer will be produced if any liquid material is spilled or lost during the course of the analysis. High results are caused by incomplete distillation generally indicated by significant weight losses when vacuum is applied.

DETERMINING INTERNAL PRESSURE OF GLASS AEROSOLS

(*From Page 231*)

Calculations

The three pressures obtained in this procedure will represent a series which diminishes in fairly linear fashion. In order to arrive at the true pressure, these readings are extrapolated to give an "0"th reading, as in the example:

First Reading: 14.0 lbs. psi-gauge
Second Reading: 13.7 lbs. psi-gauge
Third Reading: 13.4 lbs. psi-gauge
Extrapolated "0"th Reading:
14.3 lbs. psi-gauge

This is the true pressure, under the conditions of measurement.

The barometer is then read and the gauge reading corrected to give the true gauge pressure if necessary.

Discussion

Although the apparatus is designed to provide as small an internal volume as possible, still, a certain amount of gas or pressurized liquid is withdrawn from the test dispenser at each reading. For airless samples the change in pressure between readings is due only to a slight decrease in propellent concentration in the liquid phase, as required to re-establish thermodynamic balance. For samples containing air, both air and propellent gas are withdrawn from the solution to bring the pressure of the expanded head space to new equilibrium condition. Thus the difference of pressure between readings is greater for air-containing samples. In very extreme cases the difference may amount to 2.0 psi. at 70°F. and the pressure differential begins to swing from a linear relationship to a hyperbolic function as a limiting case.

The accuracy of results obtained using the extrapolation method has been checked using a large number of compositions. In such tests the formulations were prepared in metal containers fitted with pressure gauges. When pressures were determined using the procedure described above, variations between the known and extrapolated "0"th reading were 0.2 psi. or less. The greatest error was with products of high air content.

It is felt that results obtained by this test method are accurate to within ± 1.0 psi at 70°F.

Modification of Method

This procedure can be adapted to production or routine pressure checking with but slight loss in accuracy.

For a given production run an average figure is determined by experiment for the pressure increment between the "0"th and first readings. This increment is then automatically added to all other consistent first readings throughout the run. Variations of the first reading will in themselves be indicative of production anomalies, such as faculty evacuation of bottles before pressure loading, or the presence of entrapped air resulting from below normal mix temperatures during refrigeration filling operations.

AEROSOL TEST METHOD FOR FLYING INSECTS

(*From Page 226*)

dead flies are counted 24 ± 1 hours later, preferably by removing them from the recovery cage. Only flies that show no sign of life upon being touched may be counted as dead. If the "down" flies were counted as they were collected, the sum of the "down" and the "up" flies yield the total flies in the test. If the "down" flies were not counted as collected, the recovered flies are killed by placing the cage in an oven at 170°F. for a few minutes, after which they are counted. The sum of recovered and dead flies yields the "down" flies and this sum added to the "up" flies yields the total flies used in the test. The *Aerosol Test Knockdown Mortality* is the per cent dead of total flies. In the *Aerosol Test Knockdown Mortality* calculation, the "up" flies at the end of the 15-minute exposure period are considered to be alive at the end of the 24-hour observation period. The *Aerosol Test Knockdowns* are the per cent "down" of total flies at 5, 10 and 15 minutes.

In the preceding paragraph, it is assumed that the "up" flies at 15 minutes are counted and discarded, and not captured and held for a 24-hour mortality observation. If these flies are captured, the *Aerosol Test Mortality* calculation can be made, and this includes the 24-hour dead of the "up" flies. In such a procedure, the captured flies must be held in a separate recovery cage under conditions specified for the "down" flies, and the 24-hour mortality count must be taken in a similar manner. It is also necessary that the OTA, run in conjunction with the so-treated experimental samples, receive identical treatment. In reporting results, the above terminology must be rigidly adhered to

in order to clearly designate whether the "up" flies were captured and held for observation or whether they were assumed to be alive at 24 hours.

The mortality and knockdown definitions are summarized in equation form as follows:

(1) *Aerosol Test Knockdown Mortality* = $\frac{\text{Dead "Down" Flies x 100}}{\text{Total Flies}}$

(2) *Aerosol Test Mortality* = $\frac{\text{(Dead "Down" Flies) + (Dead "Up" Flies) x 100}}{\text{Total Flies}}$

(3) *Aerosol Test Knockdown, 5, 10 or 15 minutes* = $\frac{\text{"Down" Flies x 100}}{\text{Total Flies}}$

IV. CONDITIONS FOR OFFICIAL EVALUATION

1. The tests shall be conducted in accordance with the procedure previously described.

2. At least two cultures of flies, meeting Peet-Grady specifications, shall be used in making an official evaluation.

3. Cages showing a combined mortality and crippling greater than eight per cent on the day of test shall not be used.

4. In the small group procedure, using approximately 100 flies per test, no more than three unknown samples may be tested in conjunction with one OTA in any one series. Ten tests are run on the OTA and on each of the unknowns in parallel; that is, test each spray the same number of times on any one day. The samples of a series must be randomized in the order of testing.

5. The large group procedure using approximately 500 flies per test shall be conducted in the same manner as outlined for the small group procedure with the exception that five, rather than ten, tests are required.

6. The *Aerosol Test Knockdown Mortality* and/or *Aerosol Test Mortality*, and *Aerosol Test Knockdown* (5, 10, and 15 minutes) of the unknown sample shall be reported as "meeting the standard" if its average mortality and knockdown is equal to or greater than that of the OTA run in conjunction with it. "Equal to" shall be interpreted as meaning that the results with the unknown do not differ by more than —5 percentage points from the results obtained with the OTA at 5, 10, and 15, minutes. If an unknown sample shows a mortality or knockdown less than the OTA but within the allowable 5 percentage point margin, the average dosage of the unknown must not exceed that of the OTA.

7. In no case shall numerical values be reported or any letter grade designations be assigned to the test samples as a measurement of the mortality or knockdown.

8. The *Official Test Aerosol* (OTA) is restricted to use in the above described procedure and shall be used only as a reference insecticide in house fly aerosol testing.

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COCKROACH AEROSOL TEST METHOD

(From Page 222)

that if the test insects are to be held under observation longer than 48 hours, they be furnished food and water at the end of the initial 48-hour observation period. Insects that withstand insecticide treatments shall be destroyed and in no case returned to the stock cultures or employed in further tests.

The basis of comparison shall be the average percentage dead and moribund of the test sample as compared with that of the OTA. In reporting the test results the test sample shall be reported as "meeting the standard" if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 10 percentage points less than that of the OTA employed in conjunction with it. In no case shall actual numerical values be reported officially or any letter grade designation be assigned to the test samples as a measurement of their effectiveness against cockroaches. The accompanying table records the results of a typical series of tests.

IV. CONDITIONS FOR OFFICIAL EVALUATION

A. The test shall be conducted in accordance with the procedure previously described.

B. Twenty test groups of insects, numbering 20 cockroaches each (10 test sample, 10 OTA), shall be employed in making an official evaluation.

C. The average dosage shall be approximately constant throughout a given series of tests and of such magnitude as to give an average of from 50 to 75 per cent of the OTA treated cockroaches dead or moribund 48 hours after spray application.

D. The toxicity of the test sample shall be reported as meeting the standard if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 10 percentage points less than that of the OTA run in conjunction with it. In no case shall numerical values be reported or any letter grade designations be assigned to the test samples as a measurement of their toxicity to cockroaches.

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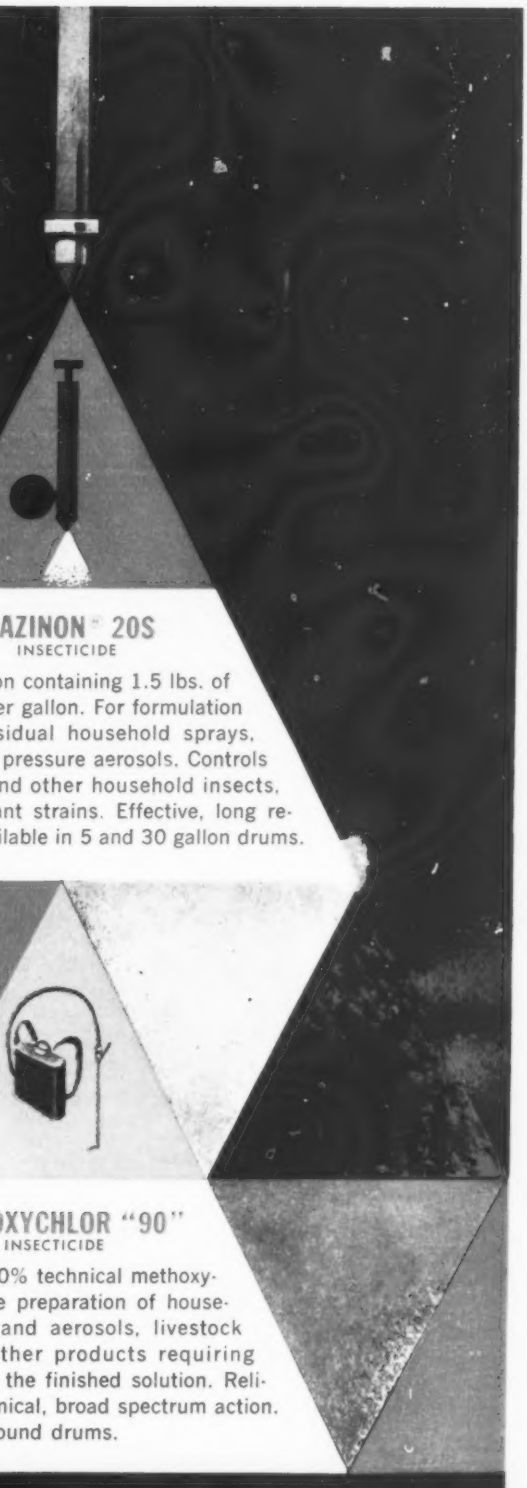
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